

PSYCHOLOGICAL ABSTRACTS

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GENERAL

3799. Alper, K. **Qualifications and standards for psychologists.** *Psychol. Exch.*, 1936, 4, 137-139.—Suggestions by the Psychologists' League Committee on Professional Welfare for maintaining professional standards. Suggestions are made for the evaluation of experience, practical and academic.—N. Goldman (Worcester State Hospital).
3800. Bills, A. G. **A new psychergometer.** *J. gen. Psychol.*, 1936, 14, 487-489.—Material is exposed on a perforated metal belt. Responses are recorded on a waxed-paper kymograph through the aid of hand or foot keys, or a modified typewriter. The latter also furnishes a typed record of the responses made on it.—H. Schlosberg (Brown).
3801. Burton, E. F., Smith, H. H., & Tarr, G. G. A. **A completely supraconducting galvanometer.** *Nature, Lond.*, 1935, 135, 906.—R. Goldman (Clark).
3802. Cáceres, A. **La obra psicologica de Radecki; ensayo critico de una síntesis.** (The psychological work of Radecki. Critical attempt at a synthesis.) Montevideo: Talleres Gráficos Record, 1935. Pp. 119.—The psychological work and influence of Radecki from 1910 to 1935 are discussed. Chapter contents include: objectives of Radecki as a teacher; his system as related to biology and the concept of function; criticism, projections and applications of his system. The elements of Radecki's systematic treatment include: (1) the intellectual life—the discriminative, imaginative, associative, and memory functions, and thought; (2) the affective life—sentiments, emotions, and abnormal affective phenomena; (3) the active life; and (4) individual psychology.—R. M. Bellows (Occupational Research Program).
3803. Crile, G. W. **The phenomena of life; a radio-electric interpretation.** New York: Norton, 1936. Pp. 379. \$3.50.—(Not seen).
3804. Ducasse, C. J. **Verification, verifiability, and meaningfulness.** *J. Phil.*, 1936, 33, 230-236.—A descriptive assertion asserts that a character named in the predicate term is the same as a character present in the subject. This correspondence is meaningful if the procedure for comparing the two terms is specified. If the procedure is both specified and carried out the assertion is both understood and verified. If it is specified but not carried out the assertion is understood but its truth is not known, though it is knowable. The verifiability is practical if we could verify it at will; it is only theoretical if we lack the means to carry out the procedure. But if we lack the means how do we know that its verification is possible? Procedures in such cases must constitute only moderate extrapolations in kind and degree from ones already used in verification, and the more moderate the extrapolations the more definite the meaning of the assertion. Theoretical verifiability is illegitimate if it is known to be self-contradictory or to contradict some known law of nature.—E. T. Mitchell (Texas).
3805. Fairbanks, G. **A device for copying single sounds from a phonograph record of speech or music.** *Science*, 1936, 83, 445-446.—A description and diagram of an electrical and mechanical device which makes possible copying single sounds of short duration from a phonograph record.—R. Goldman (Clark).
3806. Fernberger, S. W. **Elementary general psychology.** New York: Crofts, 1936. Pp. 445. \$3.00.—After an introductory discussion of the problems and history of psychology covering 37 pages, the author devotes 134 pages to the simpler conscious processes, including perception, the special senses and clearness. 87 pages are devoted to memory and thinking under the heading of complex conscious processes. Part IV, dealing with reaction, covers the topics of the nervous system, reaction, reflex, instinct, emotion, volition, and habit in 134 pages. Part V concerns the integrated organism under the headings of motivation and drive, individual differences, and integrated personality, 44 pages.—W. S. Hunter (Clark).
3807. Ferree, C. E., & Rand, G. **Uses and needs of variable illumination and a convenient device for obtaining it.** *J. gen. Psychol.*, 1936, 14, 473-487.—Serious disadvantages are inherent in the usual methods of varying the intensity of illumination. A more effective device employs four black vanes, mounted in front of a light source and behind a flashed opal diffusing screen. Illumination may be varied from zero to maximum by turning the vanes, which are controlled by calibrated levers and gears. A portable unit is described, which "although it both delivers the light and measures the amount delivered . . . can be made at a small part of the cost of a photometer." A number of uses for such units are described, ranging from the determination of the amount of light needed for reading at different ages to the furnishing of local illumination in operating rooms. "The Better Vision Institute has arranged to supply this instrument at a very small cost."—H. Schlosberg (Brown).
3808. Follett, D. H. **Galvanometer relays.** *Nature, Lond.*, 1935, 135, 187.—An improved instrument is described which would make galvanometer deflections, amplified by a photo-cell, proportional to the original deflections.—R. Goldman (Clark).
3809. Fryer, D., & Henry, E. R. **An outline of general psychology.** New York: Barnes & Noble, 1936. Pp. xliii + 229. \$0.75.—The book belongs to the College Outline Series. It includes facts and generalizations from all of the special fields of psy-

chology, with an extensive bibliography for all fields. Objective tests are provided on removable perforated sheets.—*R. E. Garner* (Clark).

3810. Gaviola, E. The impossibility of interaction between mind and matter. *Phil. Sci.*, 1936, 3, 133-142.—The article reasserts the thesis, maintained through much of the history of philosophy and typically defended by Spinoza, that mind and matter belong to different orders of reality and, therefore, cannot directly interact. No new proof of this thesis is added to the historic arguments; but the psychophysical parallelism now has an analogy in the duality between the wave and the corpuscular theories of light. These conceptions are fundamentally irreconcilable; yet each is consistent within its own system and both are needed to explain the totality of observed phenomena. So we must accept both as true because both are convenient ways of dealing with reality and of making fruitful predictions; and there is no further sense in asking what light is in reality. In the same way psychology should deal with the world of mind without concerning itself with how this order of internally consistent concepts and laws can be brought into causal action with, or made a part of, the world with which physics deals. "A theory has to stay within a single system of concepts of the same 'essence.'"—*C. C. Peters* (Pennsylvania State).

3811. Hadfield, J. A. [Ed.] *Psychology and modern problems*. London; New York: Univ. London Press; Longmans, 1936. Pp. vi + 241. 5/-; \$2.00.—This book reproduces a course of lectures delivered at the London Institute of Medical Psychology. The problems discussed are: national character and national sentiment, by Morris Ginsberg; psychology and racial differences, by C. G. Seligman; liberty, authority, democracy, by Ramsay Muir; educational ideals and the destinies of peoples, by Crichton Miller; psychological aspects of marriage and the family, by J. C. Flugel; the artist in modern civilization, by Emanuel Miller; psychology and the future of religion, by William R. Inge, Dean of St. Paul's. Hadfield contributes an introduction which presents the general trend of the various arguments.—*F. C. Bartlett* (Cambridge, England).

3812. Hallpike, C. S., Hartridge, H., & Rawdon-Smith, A. F. Notes on a sine wave and phase-change siren. *J. Physiol.*, 1936, 86, 66P-67P.—*M. A. Rubin* (Clark).

3813. Higginson, G. D. Some categories in psychology. *Psychol. Rev.*, 1936, 43, 217-228.—The author rejects the concept of stimulus as physical or chemical agent responded to, and the concepts of sensation and image as distinct from perception. There are, rather, objects which are observed in terms of their "psychological properties"; and these properties change constantly. Thus psychology is concerned always with the meaningful level. The brain, by its functioning, directly produces these properties. Remembered objects are no more mental than perceived objects. It is claimed that this approach gives psychology a legitimate place among the natural sciences by making it deal with the same

real object as they, but with a distinct group of properties of that object.—*A. G. Bills* (Chicago).

3814. Higginson, G. D., & Allgaier, E. An electromechanical maze for the study of human learning. *J. Psychol.*, 1936, 1, 271-275.—This apparatus, developed as a result of a search for a reliable method for studying maze learning in an instructional laboratory, attempts to provide adequate situational control. The subject's hand performs out of sight. Errors are registered electrically on a control board through connections in the circuit made by a metal stylus when it comes in contact with brass plates flooring the blind alleys.—*J. McV. Hunt* (St. Elizabeth's Hospital).

3815. Higginson, G. D., & Allgaier, E. A non-moving sound cage for auditory studies. *J. Psychol.*, 1936, 1, 313-318.—A sound cage devised to provide adequate control of conditions in an instructional laboratory.—*J. McV. Hunt* (St. Elizabeth's Hospital).

3816. Horst, P., & Kurtz, A. K. [Eds.] *Psychometrika: a journal devoted to the development of psychology as a quantitative rational science*. Colorado Springs: Denton Printing Co. Vol. 1, No. 1, March, 1936. Quarterly. \$5.00 per year.—*R. R. Willoughby* (Clark).

3817. Johansson, J. Ivan Petrovitch Pavlov. *Hygien, Stockh.*, 1936, 98, 209-217.—An address commemorating Pavlov, delivered to and expressing the sentiments of the Swedish Medical Society.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

3818. Johnson, H. M. Pseudo-mathematics in the mental and social sciences. *Amer. J. Psychol.*, 1936, 48, 342-351.—Critique of the attempts made to give mathematical values to processes which are not measurable.—*D. E. Johanssen* (Skidmore).

3819. Kafka, G. The change in the concepts of "world" and "surrounding-world." *J. gen. Psychol.*, 1936, 14, 438-460.—In this study in honor of Von Uexküll's 70th birthday, Kafka briefly traces the development of Von Uexküll's views, up to his present position which emphasizes the antithesis of "world" (of objective realities) and "surrounding-world" (of subjective realities). Kafka then traces the development of this distinction through the history of thought. Finally the advantages of "ideal-realism" over other philosophies are emphasized.—*H. Schlosberg* (Brown).

3820. Kraushaar, O. F. Lotze's influence on the psychology of William James. *Psychol. Rev.*, 1936, 43, 235-257.—The author first establishes a chronological and biographical basis for his thesis of the influence of Lotze on James' thought. He then points to the close similarity in their general points of view and in their treatment of specific topics. Both stressed the dynamic and functional elements in their interpretation of mental life, and both attempted to harmonize a fundamentally speculative soul-philosophy with a mechanistic scientific viewpoint and ideal for practical psychology. Lotze's metaphysics was monistic, while James' was pluralistic. They are closest in agreement on such topics as the emotions, ideomotor action, their emphasis on the feeling and action sides of mental life as opposed to the cognitive,

and their treatment of the "self." They diverged in their positions on the native versus empirical basis of space perception.—*A. G. Bills* (Chicago).

3821. McDougall, W. *Dynamics of the Gestalt psychology*. I. *Character & Pers.*, 1936, 4, 232-244.—The author approves the Gestalt psychologists' program to the following extent: (1) repudiation of atomism, sensationism, behaviorism, associationism; (2) importance of all-pervading activity; (3) recognition of natural wholes; (4) discrimination between structure and activity; (5) object rather than stimulus as source of perception; (6) open-minded approach to and vigorous attack upon all psychological problems; (7) free and bold use of hypothesis; and (8) search for adequate dynamic principles. He disapproves of their implication that Gestalt theory is the source of all truth. In the present article he states that Köhler has thrown little light on how patterning in the sensory field takes place; on the relation of spatial awareness to spatial patterning of the cerebral process; on how past experience evokes meaning in the present; or on how perception and meaning lead to action. Köhler implicitly accepts some of McDougall's hormic psychology, and if he were primarily a biologist rather than a physicist he could not fail to accept fully and explicitly the hormic principle.—*M. O. Wilson* (Oklahoma).

3822. Miller, E. O. *The psychology laboratory in a small liberal arts college*. *Psychol. Exch.*, 1936, 4, 187-188.—Three possible functions of a psychology laboratory are: (1) to acquaint students with laboratory work in general; (2) to further knowledge in psychology by experimental research; (3) to furnish means whereby individual students may learn of their own abilities and potentialities. The author believes that the small college finds its most distinctive function and contribution in the last of these three.—*N. Goldman* (Worcester State Hospital).

3823. Nylén, C. Robert Bárány. *Hygíea, Stockh.*, 1936, 98, 241-248.—Commemorative address regarding the life and scientific works of Bárány, professor at Uppsala, who died April 8, 1936, as delivered before and in behalf of the Swedish Medical Society.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

3824. Piéron, H. *Un dextérimètre à translation de rondelles enfilées*. (A measurement of dexterity by moving rings.) *Bull. Inst. nat. Orient. prof.*, 1935, 7, 69-74; 101-113.—The test consisted of a long wire bent in elbows with different degrees of angularity, and metal rings which had to be moved along this wire from one end to the other. Average scores are given for boys and girls.—*H. E. Burr* (Ohio State).

3825. Protopopov, V. P. *Pamyati akad. Ivana Petrovicha Pavlova*. (In memory of the academician Ivan Petrovich Pavlov.) *Méd. exp., Kharkov.*, 1936, No. 2, 7-11.—*F. S. Keller* (Colgate).

3826. Ritchie, A. D. *The natural history of mind*. New York: Longmans, Green, 1936. Pp. 286. \$4.50.—The book contains the Tarner Lectures delivered at Cambridge in 1935 by the author, who is lecturer in chemical physiology in Manchester. The following

topics are covered: causation, living and lifeless, the nervous system, the functions of the brain, the subject matter of psychology, sensation, perception and cognition, and emotion and thought.—*W. S. Hunter* (Clark).

3827. Rogers, H. W. *The Eastern Branch of the American Psychological Association*. *Science*, 1936, 83, 467-468.—A report of the spring meeting of what was formerly known as the New York Branch, American Psychological Association.—*R. Goldman* (Clark).

3828. Ross, C. C. *A needed emphasis in psychological research*. *Psychol. Rev.*, 1936, 43, 197-206.—A plea for greater emphasis on the "re" in research, meaning more frequent repetition of experiments, and more verification of laboratory results in life situations. The author also decries the too ready generalizations made from limited experimental data, in view of the infinite variability of human nature.—*A. G. Bills* (Chicago).

3829. Rostohar, M. *Struktura v duševním životě*. (The structure in psychic life.) *Psychologie, Brno*, 1935, 1, 89-113.—After a discussion of the problem of which psychological entities are in the nature of forms and which in the nature of structures, the author leaves the final decision to further detailed studies. He lets Dilthey explain the structural nature of the psyche and also cites Krueger's conception of it. The view of the Berlin school of psychologists that psychic structure represents a definite and relatively permanent entity in experience seems to Rostohar the most acceptable. He adds, however, that the structure is of a dynamic nature, as it is capable of influencing the creation of further phenomena. Terms such as unity, form, and complex are discussed at length and definitions given, with quotations from German authors. The principle of structure in psychology is held to express the totalitarian nature of psychic experiences and also to prove that apperceptions are influenced by previous experiences. This is a dynamic concept to explain the origin of psychic entities and is not bound by the concepts of form or complex.—*K. Sicha* (New York City).

3830. Scates, D. E. *The forming of categories in research*. *J. educ. Res.*, 1936, 29, 567-573.—Contrast is shown between quantitative and qualitative categories as bases for frequency studies. The second type is more complex and more difficult, and there are no simple rules by means of which one may proceed.—*S. W. Fernberger* (Pennsylvania).

3831. Sheldon, W. H. *Psychology and the Promethean will*. New York: Harper, 1936. Pp. 275. \$2.50.—"A constructive study of the acute common problem of education, medicine and religion."—*R. R. Willoughby* (Clark).

3832. Tolman, E. C. *Connectionism; wants, interests, and attitudes*. *Character & Pers.*, 1936, 4, 245-253.—On the basis of experimental work Thorndike presents in a recent book with the above title a revision of his theory of learning, the main features of which follow: (1) repetition of a response, if it have no greater satisfying effect than do alternative re-

sponses, does not tend to stamp in this response (revision of original law of exercise); (2) whereas a satisfying effect strengthens the connection which it follows, an annoying effect has no weakening effect; (3) influence of the satisfying effect tends to spread to relatively adjacent connections; and (4) a connection is strengthened by satisfyingness only to the extent that there exists a state of "belonging-togetherness" of the situation and the response in question. The new auxiliary principles are relevance, confirming reaction, informative or validating influence, and overhead (cortical) control. Tolman's criticisms are: (1) the new theory is still too connectionistic; learning is not merely the building up of a simple S-R complex; (2) whereas Thorndike gets no weakening of a connection following annoyance, Tolman, under similar conditions, does get weakening; hence there is a question as to the adequacy of Thorndike's methods; and (3) whereas Thorndike tends to interpret the spread of punishment effects in terms of proximity of individual items, Tolman's experiments show that the spread is due to the grouping of successive items. In fine, Thorndike's results are interesting and suggestive, but his interpretation of them is questionable.—*M. O. Wilson* (Oklahoma).

3833. Wyatt, R. F. A new instrument for measuring pitch discrimination. *Amer. J. Psychol.*, 1926, 48, 335-341.—Description of an instrument which is much more accurate than the phonograph records of the Seashore or Kwalwasser-Dykema tests.—*D. E. Johannsen* (Skidmore).

[See also abstracts 3839, 3962, 4004, 4218.]

SENSATION AND PERCEPTION

3834. Abel, T. M. A comparison of tactual-kinesthetic and visual perceptions of extent among adults, children, and subnormals. *Amer. J. Psychol.*, 1936, 48, 269-296.—The problem of the present study was to determine whether the visual dominance of adults occurs in other situations than in orientation on the skin. S was permitted to feel with his forefinger a length of cardboard (5, 7, 9, and 11 cm.); in one procedure he reproduced this distance visually in the second he reproduced it manually. Each S was given 30 trials by each procedure. No left-handed S and none with visual defect was used. S's were 50 undergraduate women (ages 16 to 21), and 50 children (27 boys and 23 girls) between 9 and 12 years old. The intelligence of all the children was either normal or superior. A group of 50 subnormal girls (CA 16 to 18 years, MA 9-0 to 11-11) was also used. The results show that the adults did better than the children by both methods, and were less influenced by the difference in the magnitude of the standard. Differences for the most part were reliable. Both groups were less variable in the tactual reproduction procedure. Correlations with IQ were negligible. The subnormal girls did much better by the tactual than by the visual method; their results in this respect approached that of the adults. There is a theoretical discussion of these results.—*D. E. Johannsen* (Skidmore).

3835. Barwell, H. The prognosis in deafness. *Lancet*, 1936, 230, 159-160.—The etiological factors in deafness may be classified as those contributing to nerve-deafness, in which there is involvement of the cochlea, auditory nerve, and brain centers; and affections of the conducting mechanism, that is, of the external and auditory meatus and of the tympanum with its adnexa. Medical and surgical considerations are presented, with a brief discussion of methods for detecting deafness.—*D. J. Ingle* (Mayo Foundation).

3836. Bazett, H. C. Methods of investigation of sensation in man and the theoretical value of the results obtained. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 83-97.—A review of the data at present available leads to the tentative assumption that receptors in the skin belong to one of four groups according as they respond to (1) mechanical deformation, (2) the presence of some chemical substance, (3) a gradient in the concentration of some chemical substance, (4) nocuous influences of the above types but with a higher threshold. Single receptors on a histological basis need not be single physiologically, since they may receive, as do the muscle spindles, more than one sensory fiber.—*D. G. Marquis* (Oxford England).

3837. Belonochkine, B. Physiologisch-anatomische Untersuchungen über die Empfänger der Kälteempfindung. (Anatomical-physiological investigations on the receptors of the cold sensation.) *Z. Zellforsch.*, 1933, 18, 555-572.—After locating the cold spots on the nipple and dark circular surrounding area (where the sensitivity to heat is greatly reduced) a cross-section of the area was made and Krause corpuscles and Golgi-Mazzoni corpuscles were found; there were no corpuscles of Ruffini.—(Courtesy *Année psychol.*)

3838. Bolton, C. Observations on referred pain. *Brain*, 1934, 57, 211-226.—The locality of the referred pains in cases of gastric disorder is determined by the distribution of the intercostal nerves independent of the point of irritation of the stomach where the pain originates.—(Courtesy *Année psychol.*)

3839. Bouman, H. D. Rhythmical electrical stimulation of the retina and demonstration of an apparatus for rhythmical electrical stimulation. *Acta brev. neerl. Physiol.*, 1934, 4, 114-115.—By intermittent electrical stimulation of the eye an intermittent luminous impression, fusing at a frequency of about 120 per sec., is obtained. This is better than the impression obtained by intermittent luminous stimulation. The essential role of the peripheral processes in visual fusion is confirmed.—(Courtesy *Année psychol.*)

3840. Braunschhausen, N. La couleur et la forme. Le graphisme et l'expression graphique. (Color and form. Writing and graphic expression.) *Sem. univ. Pédag. Univ. libre Brux.*, 1935, 1, 83-110.—The author reviews previous observations and experiments on the role of form and color in the perception of the child and the adult, showing that in the course of psychological development perception of form pre-

dominates somewhat over color. This seems to be the reason that man makes use of differentiations in form to express his ideas rather than nuances in color. Furthermore, Braunshausen's work brings out a comparison between preference for color or form and the psychological types described by Kretschmer, Jaensch, and Rorschach, the results indicating that this preference has a characterological, diagnostic value: predominance of color is to be found in Rorschach's extratensive type, Kretschmer's cyclothmic type, and Jaensch's integrated type, while the coarctate, schizothymic, and disintegrated types show more affinity with the form preference group.—*R. Nihard (Liege)*.

3841. Bujas, Z., & Chweitzer, A. Contribution à l'étude du goût dit électrique. (Contribution to the study of so-called electric taste.) *Année psychol.*, 1934, 35, 147-157.—It is probable that the complex taste aroused is due to direct excitation of the nerve endings; the bitter taste which accompanies the complex taste may be due to a chemical stimulation. This hypothesis is favored by the very short reaction times and the relationship between the reaction time and the intensity of stimuli. The acid taste roused electrically is due to the electrolysis of the saliva and the intercellular liquid.—*R. Goldman (Clark)*.

3842. Christmann, K. Über die Lokalisation von Geruchsempfindungen. (The localization of olfactory sensations.) Bayreuth: Neumeister, 1936. Pp. 16.—*R. R. Willoughby (Clark)*.

3843. Clark, B. A photographic study of the binocular behavior of eyes having monocular and binocular abnormalities. *Trans. Amer. Acad. Optom.*, 1936, 9, 168-178.—Over 1200 ocular movements were photographed, using the corneal reflection method, to determine the characteristic eye-movement habits of individuals having high exophoria or poor vision in one eye. This group was compared with a control group consisting of individuals having standard vision and "normal" binocular balance. The investigation resulted in the following specific findings: (1) During the reading period the experimental group did not differ significantly from the control group in the number of fixations, regressions, and reading time per line; (2) the experimental group, on the average, made larger over-convergence movements in moving from the end of one line to the beginning of the next; (3) the experimental group required more time to complete the corrective divergence movement at the beginning of the lines than did the control group; (4) the vertical component of the corrective movement was also larger for the experimental group; (5) the experimental group showed a greater tendency for the eyes to diverge while the individuals read through a single line; (6) in shifting fixation between two words, both groups showed a linear relationship between the size of the corrective adjustments and the interfixation distance; (7) the experimental group made larger divergence adjustments after simple saccadic movements. The time required to complete these adjustments was also greater for the experimental group. (8) For large interfixation distances the experimental

group made larger vertical corrective adjustments than did the control group. (9) The experimental group was consistently more variable than the control group.—*R. J. Beitel, Jr. (American Optical Company)*.

3844. Clark, D., Hough, H., & Wolff, H. G. Experimental studies on headache: observations on histamine headache. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 417-436.—The headache which follows injection of histamine was demonstrated to be associated with an increase in the amplitude of the intracranial pulsations. This correlation provides evidence that the histamine headache is primarily due to dilation of the pial and dural arteries and their surrounding tissues.—*D. G. Marquis (Oxford, England)*.

3845. Cowan, A. The schematic eye. *Arch. Ophthalm., Chicago*, 1936, 15, 312-319.—The author gives the measurements for Gullstrand's schematic eye and reduced eye, discussing their derivations and significance, with mention of measurements proposed by other investigators.—*M. R. Stoll (Massachusetts Eye and Ear Infirmary)*.

3846. Critchley, M. Some aspects of pain. *Brit. med. J.*, 1934, No. 3854, 891-896.—The many psychological concomitants of pain are described, such as the apparent increase in time, the existence of "synalgia" ("colored pain"), individual variability in susceptibility to pain, cessation of pain, etc., and finally the possibility that pain may become a symbol of pleasure in different types of algophilia, especially by sexual association.—(Courtesy *Année psychol.*)

3847. David-Galatz, —. Sur la localisation du son dans la perception cranio-osseuse. (On the localization of sound by bone conduction.) *Ann. Oto-laryng.*, 1934, No. 6, 576-584.—(Courtesy *Année psychol.*)

3848. Davison, C., & Schick, W. Spontaneous pain and other subjective sensory disturbances. A clinico-pathologic study. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 457-496. (Reprinted in *Arch. Neurol. Psychiat.*, Chicago, 1935, 34, 1204-1237.)—11 cases, with autopsies, are presented to show that central pain and other subjective sensory disturbances occur not only in pure thalamic, but also in peripheral, spinal cord, bulbar, and cerebral lesions. The anatomical data indicate that the sensory disturbances are associated in most of the cases with incomplete lesions of the spinothalamic tract or its components, which are presumably both irritative and destructive.—*D. G. Marquis (Oxford, England)*.

3849. De Groot, W. Vision in the ultra-violet. *Nature, Lond.*, 1935, 135, 68-69.—"The question of vision in the ultra-violet is more determined by accidental properties of the eye (colouring of liquids) than by a certain disposition of receptors."—*R. Goldman (Clark)*.

3850. Doane, H. C. Clinical developments and observations in the correction of aniseikonia. *Trans. Amer. Acad. Optom.*, 1936, 9, 31-43.—The author reports the results of the examination of 370 cases. The following conclusions are drawn: (1) that the existence of aniseikonia (difference in size and shape

of ocular images) may be the cause of ocular discomfort; (2) that the correction of aniseikonia has afforded definite relief in a large proportion of the corrected cases; (3) that the prevalence of this condition and its relation to visual and general comfort is greater than is generally realized; (4) that aniseikonia exists with emmetropia, and that while the larger number of cases may be found with anisometropia it does exist with equal ametropia; (5) that the type and amount of refractive error is no criterion of the type and amount of aniseikonia that may be present.—*R. J. Beitel, Jr. (American Optical Company).*

3851. Doane, H. C. Further observations on aniseikonia. *Trans. Amer. Acad. Optom.*, 1936, 9, 179-188.—This report presents facts relative to the clinical correction of aniseikonia, and covers only those cases that have had at least one year's experience with correction, with particular reference to stability and permanence of correction and the effect on phorias and fusion.—*R. J. Beitel, Jr. (American Optical Company).*

3852. Dundas-Grant, J. Measurement of loss of hearing in decibels by means of tuning forks. *Lancet*, 1935, 229, 996-998.—Hearing loss can be calculated in decibels by plotting the audiometer chart by determining the rate in seconds of the dying down of the amplitude of the vibration of a tuning fork to one-half, called "half-amplitude time"; and determining the number of seconds for which the sound of the tuning fork is heard by the average normal person after the patient ceases to hear it, called "duration-deficit." The decibel loss can then be calculated by the formula: $\frac{\text{duration-deficit}}{\text{half-amplitude time}} \times 6 = \text{loss in decibels.}$ —*D. J. Ingle (Mayo Foundation).*

3853. Edes, B., & Dallenbach, K. M. The adaptation of pain aroused by cold. *Amer. J. Psychol.*, 1936, 48, 307-315.—The present study was undertaken to throw light upon the divergent theories of Von Frey and Goldscheider with respect to pain. It was desired to find whether pain aroused by cold would adapt, and if so, what the residual effects would be. The stimulus was the cold produced by dry ice in a specially constructed container; both forearms were used. Three of the S's were untrained; the fourth had previously observed in pain adaptation experiments. Normally the S first reported cool or cold, which increased in intensity, passing over into pain which in its turn increased in intensity, remained stable for a time, and then decreased, the cold again becoming predominant. Eventually the pain entirely disappeared; in some experiments the cold also did so. Pressure was not reported as a residual experience after the disappearance of the pain. The authors conclude that this experiment substantiates Goldscheider's theory that pain is a separate modality, and the experiences which accompany it are a function of the manner in which the pain is aroused.—*D. E. Johannsen (Skidmore).*

3854. Elsberg, C. A. The sense of smell. VIII. Olfactory fatigue. *Bull. neurol. Inst. New York*, 1935, 4, 479-485.—A procedure is described for the

quantitative study of olfactory fatigue (adaptation). The duration, and therefore the depth, of olfactory fatigue is proportional to the length of time during which the odor is administered and to the volume rate of injection into the nose. Evidence is presented to show that olfactory fatigue is the result of a temporary abeyance of function in the brain itself rather than of a refractory state of the olfactory receptors, nerves or tracts.—*D. G. Marquis (Oxford, England).*

3855. Elsberg, C. A. The sense of smell. IX. A. Monorhinal, birhinal and bisynchronorhinal smell. The summation of impulses in birhinal smell. B. Some facts regarding the psychophysiology of the olfactory sense. *Bull. neurol. Inst. New York*, 1935, 4, 496-500.—The olfactory threshold is lower in birhinal than in monorhinal stimulation, indicating that there is a summation effect from one side of the olfactory system to the other.—*D. G. Marquis (Oxford, England).*

3856. Elsberg, C. A. The sense of smell. XI. The value of quantitative olfactory tests for the localization of supratentorial tumors of the brain. A preliminary report. *Bull. neurol. Inst. New York*, 1935, 4, 511-522.—Investigations of olfactory function have been carried out on 52 patients in whom a cerebral tumor has been verified by operation, autopsy or X-ray. The results indicate that olfactory sensitivity is decreased on the side corresponding to involvement of the olfactory nerve or tract. Olfactory fatigue is prolonged by ipsilateral intracerebral tumors which may or may not affect the sensory threshold. In patients with a generalized increase of intracranial pressure, there is often a lower olfactory threshold.—*D. G. Marquis (Oxford, England).*

3857. Elsberg, C. A., & Brewer, E. D. The sense of smell. X. A detailed description of the technique of two olfactory tests used for the localization of supratentorial tumors of the brain. *Bull. neurol. Inst. New York*, 1935, 4, 501-510.—*D. G. Marquis (Oxford, England).*

3858. Feldman, J. B. A review of infra-red photography with reference to its value in ophthalmology. *Arch. Ophthalmol., Chicago*, 1936, 15, 435-442.—The article reviews briefly the development of infra-red photography and discusses its application in various fields. In ophthalmology it is especially helpful in revealing the contour, size, shape and position of the pupil when obscured by a dense cornea. The author suggests using infra-red photography to measure pupil size under conditions of dark adaptation.—*M. R. Stoll (Massachusetts Eye and Ear Infirmary).*

3859. Förster, P. Über das Erkennen und Lokalisieren von zwei gleichzeitig der rechten und linken Sinneshälfte dargebotenen Riechstoffen. (The recognition and localization of odorous substances presented simultaneously to the right and left sense fields.) *Bad Wildungen: Pusch*, 1935. Pp. 22.—*R. R. Willoughby (Clark).*

3860. Friedenwald, J. S. Diagnosis and treatment of anisophoria. *Arch. Ophthalmol., Chicago*, 1936, 15, 283-307.—Defining anisophoria as heterophoria in

which the degree of imbalance varies with the direction of gaze, Friedenwald describes a method for testing for anisophoria and explains how the difficulty can sometimes be corrected by lenses of the type designed by Ames and his associates for the correction of aniseikonia. Friedenwald reports that patients have been relieved of symptoms even when correction of the anisophoria introduced considerable difference in size of the images of the two eyes.—*M. R. Stoll* (Massachusetts Eye and Ear Infirmary).

3861. Fry, G. A. Color sensations produced by intermittent spectral stimuli. *Amer. J. Psychol.*, 1936, 48, 326-330.—"Color sensations obtained with intermittent spectral stimuli have been described. Effects of varying the frequency, wave-length, and purity of the stimulus, and the brightness of the surrounding field have been investigated. At low frequencies bright flashes alternate with dark intervals. The hue of the bright flashes was that characteristic of the wave-length used; the dark intervals were tinged with purple or violet. These purple secondary images are perhaps related to Bidwell's ghost, which is obtained with single momentary stimuli and with dark surroundings, although in the present investigation intermittent stimulation and bright surroundings were used and these factors play demonstrable roles. When the intermittent flashes are admixed to a white area instead of being exposed in a dark area, the secondary images are complementary to the primary ones."—*D. E. Johannsen* (Skidmore).

3862. Fry, G. A. Binocular integration of hue and brilliance. *Arch. Ophthalmol., Chicago*, 1936, 15, 443-456.—The author reports a series of observations on binocular fusion and rivalry, conditions being designed to illustrate all types of stimulus combinations. He finds that a border in one field inhibits the effect of a uniform surface observed by the other eye; borders crossing in the two fields are not fused but produce an effect of rivalry, the brighter or less blurred pattern tending to dominate when there is a difference; borders in non-corresponding parts of the two fields give a fused pattern, but increasing the brightness of one tends to inhibit the effect of the other; when borders in the two fields fall on corresponding retinal areas, the resultant impression depends upon relative brightness of objects and ground and also on color differences when present—when the ground is darker than the object, the latter appears more brilliant with binocular observation, but with reversed relationship the impression of a darker object inhibits any effect of one less dark, and rivalry ensues when the two objects have opposite brightness relations to the background; color differences produce rivalry when both fields are brighter than the ground except when the latter is of zero brightness and fusion occurs. An attempt is made to explain these findings on the hypotheses that paths from corresponding parts of the two retinae converge on common cerebral paths and that increased frequency of impulses and modulations of nerve currents explain summation and color fusion.—*M. R. Stoll* (Massachusetts Eye and Ear Infirmary).

3863. Gamburtseva, A. S. Graficheskii metod obrabotki krivyykh adaptatsii pri perifericheskom zrenii. (A graphic method of studying the adaptation curves in peripheral vision.) *C. R. Acad. Sci. U.R.S.S.*, 1934, 3, 172-174.—(*Biol. Abstr.* X: 5597).

3864. Gilmer, B. v. H. A study of the regeneration of vibratory sensitivity. *J. gen. Psychol.*, 1936, 14, 461-462.—"A study of the regeneration of vibratory sensitivity at different time intervals over a period of two years seems to show that as regeneration takes place there is both an increase in sensitivity to mechanical vibration and a gradual increase in the upper limit of frequency sensitivity."—*H. Schlosberg* (Brown).

3865. Godefroy, J. C. L. Die Lokalisation von Vibrationsempfindungen bei zunehmendem Druck. (The localization of vibratory sensations in increasing pressure.) *Proc. Acad. Sci. Amst.*, 1934, 37, 253-263.—The subjects place the middle fingers on a metal plate through which electrical vibrations of from 25 to 100 per second are sent. As the pressure increases, the vibration is perceived farther and farther from the stimulated region, going to the hand, the fore-arm, the elbow, etc.—(Courtesy *Année psychol.*)

3866. Hartridge, H. Effect of phase change on the human ear. *J. Physiol.*, 1936, 86, 64P-66P.—Some objections to the hypothesis that phase change arrests the resonators in the ear and then sets them into vibration again are discussed and rejected.—*M. A. Rubin* (Clark).

3867. Heinbecker, P., & Bishop, G. H. The mechanism of painful sensations. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 226-238.—No specialized receptor for skin pain has been demonstrated, and it is probable that the nerve endings subserving pain lack gross anatomical specialization. Differential stimulation of nerves shows that pain results from the stimulation of the smallest myelinated and unmyelinated fibers. Pain is not completely specific, for the threshold sensation induced by activation of the potential pain mechanism is not painful but rather a tactile or contact sense. The pathways, however, are specific to the extent that only certain pathways and not all pathways for contact sense are capable of conveying impulses resulting in pain.—*D. G. Marquis* (Oxford, England).

3868. Higginson, G. D. A new explanation of some so-called illusory patterns. *J. Psychol.*, 1936, 1, 295-311.—This writer objects to the treatment of illusions, common in textbooks, in which they are considered "false perceptions," "misinterpretations of the stimulus," etc. Such thinking allows the term "really" to be synonymous with "physically," and leads to a plethora of assumed factors to account for "illusory" properties. The pattern of the Mach book with two meaningful properties, edge distant or edge close, is shown to be common to all figures exhibiting reversible perspective. Observability of this pattern in terms of this alternating distance-property is assumed to be inherently determined, as can be shown by changing it slightly into a rectangle divided centrally. Most assumed explanatory prin-

ciples are discarded because they are not subject to test, then tests are given which destroy the efficacy of (1) fixation point, (2) eye movements, and (3) attitudes. Several systematic points are stressed, but especially that "meaningful properties emerge directly as a first resultant of function."—*J. McV. Hunt* (St. Elizabeth's Hospital).

3869. Hodge, W. J. Sound control and noise elimination. *Person. J.*, 1936, 15, 11-18.—A reduction of 5 to 15 decibels in the noise level of a room may be effected by the use of appropriate sound-absorbing materials for walls and ceiling. Such materials may be fireproof and of pleasing appearance. A reduction of this amount of noise makes the difference between a "noisy" office and a "quiet" one. Reductions of 42% and 24½% in clerical errors have been reported from two offices in which sound-absorbent materials were installed. Psychological tests have shown a 40% loss of speed in typing, together with a 19% increase in energy used, under noisy conditions.—*L. A. Riggs* (Clark).

3870. Hofe, K. v. Weitere Untersuchungen über die elektrische Erregbarkeit des menschlichen Auges bei der Helladaptation. (Further investigations on the electrical excitability of the human eye in light adaptation.) *Arch. Augenheilk.*, 1934, 108, 241-245.—Previous results are confirmed: a uniform lighting diminishes the electrical excitability of the eye.—(Courtesy *Année psychol.*)

3871. Hovland, C. I. The influence of adaptation illumination upon visual reaction time. *J. gen. Psychol.*, 1936, 14, 346-359.—This experiment was designed to determine the effects of various levels of adaptation (to 0, 50, 100, 150 and 200 foot candles) on the reaction time to a small patch (emitting 250 foot candles). At first the reactions made in the dark were longest, but this was attributed to the initial difficulty of maintaining a motor set in the dark, and disappeared after practice. When the reaction had become stable, the reaction time was found to increase with the level of adaptation, and the resulting curves resembled those obtained by Hecht on *Mya*. The implications of these results are discussed.—*H. Schlosberg* (Brown).

3872. Icken, E. Untersuchungen über die vom Auge kontrollierten Leistungen stark schwachsichtiger Menschen. (Investigations on visually controlled performance in very weak-sighted persons.) Pritzwalk: Koch, 1934. Pp. 18. RM. 8.—*R. R. Willoughby* (Clark).

3873. Jaekle, C. E. Restoration of ability to read with either eye after training one eye in a case of subnormal vision. *Trans. Amer. Acad. Optom.*, 1936, 9, 19-25.—*R. J. Beitel, Jr.* (American Optical Company).

3874. James, H. E. O. The localization of sound. *Spec. Rep. Ser. med. Res. Coun., Lond.*, No. 207. 1936. Pp. 38. 9d.—It is well known that when sound waves from a single source are conveyed to a listener along closed air passages, the apparent location of the sound depends partly upon the relative lengths of

the airways. It is also known that if one ear of the listener is first subjected to continuous stimulation, or if the sound is kept for some time in an extreme right or left location, the listener's judgment of the position of the sound is thereby affected. It is this disturbance, here said to be due to "attunement," which is the subject of this experimental monograph. Experiments are fully described which give the results concerning the effect of attunement upon localization of sound under various conditions. The influence of relative intensity upon localization is also briefly discussed. *F. C. Bartlett* writes a short introduction.—*F. C. Bartlett* (Cambridge, England).

3875. Karn, H. W. Area and intensity-time relation in the fovea. *J. gen. Psychol.*, 1936, 14, 360-369.—The effect of area on the intensity-time relation was determined for the human fovea. As the area is decreased, the relationship approaches that found for the single visual sense cell. These results furnish evidence "that the excitation of the human foveal receptor is characterized by a 'critical duration.'" The relationship is obscured as the area is increased, but to a smaller extent than in the periphery.—*H. Schlosberg* (Brown).

3876. Kostencki, A. Experimentelle Untersuchungen über die Schädigung des Gehörapparates durch Nikotin und Alkohol. (Experimental investigations on injury of the auditory apparatus by nicotine and alcohol.) *Beitr. Anat. etc., Ohr.*, 1935, 31. Pp. 451-473.—*R. R. Willoughby* (Clark).

3877. Kühl, A. Über die mögliche Leistung einer subjektiven Refraktionsbestimmung. (On the possible ability to make a subjective determination of refraction.) *v. Graefes Arch. Ophthalm.*, 1933, 129, 455-467.—(*Biol. Abstr.* X: 5604).

3878. Kurtz, J. I. The reliability and variability of the near point accommodation tests. *Trans. Amer. Acad. Optom.*, 1936, 9, 90-139.—"A series of tests was carried out on 26 subjects. The negative accommodation and amplitude of accommodation were tested, using three types of tests for each function. The minimum and maximum findings were obtained in each test. The right and left eye values were combined, thus giving 52 tests for the calculation of the average, range, and S.D. The coefficient of variation was computed from the average and the S.D. of all the subjects contained in the group." Determinations of reliability of the various tests were obtained. "While we find that all of the negative accommodation and amplitude of accommodation tests are very reliable, they, however, differ greatly in their variability." The clinical significance of these results is pointed out.—*R. J. Beitel, Jr.* (American Optical Company).

3879. Lindstaedt, W. Experimentelle Untersuchungen über das Küchenmeister-Phänomen. (Experimental investigations on the Küchenmeister phenomenon.) *Untersuch. Psychol. Phil.*, 1935, 9. No. 3. Pp. 61.—*R. R. Willoughby* (Clark).

3880. Müller, G. E. Kleine Beiträge zur Psychophysik der Farbenempfindungen. (Minor contribu-

tions to the psychophysics of color sensation.) Leipzig: Barth, 1934. Pp. 316.—The general sections included are: the nutritive weakness of the substance PIII (corresponding to the third receptive component in the Young-Helmholtz theory); the foveal Purkinje phenomenon; the saturation of spectral colors; Piéron's investigations on the development of chroma; the influence of retinal liquid movements on consecutive images; and the process of luminous and chromatic induction.—(Courtesy *Année psychol.*)

3881. Newhall, S. M., & Rodnick, E. H. The influence of the reporting-response upon the report. *Amer. J. Psychol.*, 1936, 48, 316-325.—The problems of the present study were to determine the relative effects of oral, manual, and pedal reporting upon the differential brightness threshold, and the influence on the obtained threshold value of a variation in force required for reporting. 6 S's were used. They served in three series: (1) report given verbally, (2) report given by finger-key, and (3) report given by foot-key. The method of constant stimulus differences was used. No reliable differences were found. The experiment was then repeated and a variable amount of pressure required in different series to operate the keys. It was found that limens rose when more force was required to operate the key; the individual differences were not significant, but there were no reversals of tendency in any case.—D. E. Johannsen (Skidmore).

3882. Pankauskas, J. Vergleich isolierter und rhythmisch gebundener Zeitstrecken. (Comparison of isolated and rhythmically connected periods of time.) *Neue Psychol. Stud.*, 1933, 9, 239-266.—R. R. Willoughby (Clark).

3883. Patten, C. A., Frantz, A. M., & Hare, C. C. [Eds.] *Sensation: its mechanisms and disturbances*. Baltimore: Williams & Wilkins, 1935. Pp. xxiii + 541. \$7.50.—Volume 15 of the annual research publications of the Association for Research in Nervous and Mental Disease, containing the proceedings of the meeting of December 27-28, 1934. The twenty contributions, which are abstracted separately in this issue, are grouped in four sections dealing with (1) peripheral nerves and sensory nerve endings, (2) visceral sensations, (3) sensory tracts and mechanisms in the cord and brain, and (4) clinical cases illustrating the general principles and mechanisms developed in the first three sections. 153 illustrations, 31 tables, and index.—D. G. Marquis (Oxford, England).

3884. Piéron, H. L'évanouissement de la sensation lumineuse. Persistance indifférenciable et persistance totale. (Extinction of the light sensation. Indiscriminable persistence and total persistence.) *Année psychol.*, 1934, 35, 1-49.—A discussion of intermittent light excitation, dealing with: the principal factors involved in the variation of indiscriminable persistence such as the intensity of the stimulating light, the place on the retina stimulated, the spectral composition of the light and the place of stimulation, the process of interaction (facilitation, inhibition); interpretation of the process of inter-

mittent vision and the problem of indiscriminable persistence; the activity of the stimulating surface on the extent of the indiscriminable persistence; extinction and the problem of the relation between indiscriminable persistence and the total persistence; and the problem of the mechanism of the flickering impression.—R. Goldman (Clark).

3885. Pikler, J. Die Trennung Lichts und Schattens von Eigenhelligkeit der Flächen als Werk der Netzhautkrümmung und des Blicks. (The distinction of light and shade from the intrinsic brightness of surfaces as a task of the retinal curvature and of the regard.) Budapest: Kilián, 1936. Pp. 38.—The curvature of the retina involves differences of strength in the illumination of its different regions which occurs through the coats of the eye. These differences cause the distinction of light and shade from the intrinsic brightness of surfaces. This can be shown by changing or even equalizing the distribution of this illumination throughout the retinae by application of sheltering screens or illuminating mirrors to the eyes or of two rooms. In this way the distribution of light and shade can be altered and even all perception of illumination annihilated. The differences named produced their effect through a twofold mediation of the seeing activity. One of these, the role of the seeing activity in the perception of the orientation of surfaces, has been stated already by the author in an article in *Z. Sinnesphysiol.*, 1933, 64, 148-151. The other type, the separating function proper, consists in a certain softening or inversion of the regard. This type is absent in the observation of framed surfaces; hence the result of Hering's shadow-framing experiment.—P. Ranschburg (Budapest).

3886. Pollock, L. J., & Davis, L. Visceral and referred pain. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 210-225. (Reprinted in *Arch. Neurol. Psychiat.*, 1935, 34, 1041-1054.)—The essential pathway for the pain produced by faradic stimulation of the peritoneal diaphragm was studied experimentally in 140 animals, using respiratory response as an indication of pain. Impulses travel along the phrenic nerve from the diaphragm, enter the cord by the 4th cervical posterior root, and descend to the levels of the 8th cervical, 1st, 2d, and 3d thoracic segments. Here connection is made with sympathetic efferent fibers to the cervical ganglia and thence to the skin, blood vessels, meninges, and other structures, where by some process the sensory endings of the cerebrospinal system are stimulated and sensory impulses travel over the somatic afferent fibers to enter the spinal cord through the posterior roots and ascend to the cerebral sensory centers.—D. G. Marquis (Oxford, England).

3887. Polyak, S. Minute structure of the retina in monkeys and in apes. *Arch. Ophthal.*, Chicago, 1936, 15, 477-519.—The Golgi method was used in studying synaptic relations in retinas of monkeys and of a chimpanzee. Only one type of cones and one of rods was found. Rods are present throughout the macula. Horizontal cell dendrites form baskets

touching cone pedicles from below while teledendrons of the axis cylinders become attached to the sides of distant cone foot-pieces and perhaps also of rod end-knobs. Bipolars are classifiable into four diffuse and one monosynaptic variety, the latter connecting a single cone with its individual ganglion, while the others connect groups of photoreceptors (both rods and cones in some instances) with diffuse ganglion cells. Diffuse bipolars are present in the fovea. Three types of amacrine cells are found with axones directed up (suggesting function as "centrifugal bipolars"), down, or mainly horizontally. Of the six types of ganglion cells, five are diffuse types, morphologically distinguishable but without obvious functional differences. Dendritic branchings of the "individual ganglion cells" do not overlap with one another but may overlap with those of diffuse ganglia. Muller's fibres are found throughout the retina and serve to insulate nuclei and fibers of photoreceptors and conducting units. All evidence indicates correctness of the neuron theory as opposed to any form of reticular concept. Rods and cones may be less independent than is usually believed, since they may be connected to common bipolars. Differential color responses occurring at retinal level are probably to be explained by reference to the bipolar types.—*M. R. Stoll* (Massachusetts Eye and Ear Infirmary).

3888. Quercy, —, & De Boucaud, —. Note sur l'illusion des amputés. (A note on the illusion of persons with amputated limbs.) *Gaz. hebd. Sci. méd.*, 1935, January. Pp. 6.—In 10% of the cases, revivals of sensations experienced in the last moments of the life of the limb are reported. The neuroma could not engender these hallucinations; they are roused by a central hallucinatory mechanism.—(Courtesy *Année psychol.*)

3889. Raffel, G. Visual and kinaesthetic judgments of length. *Amer. J. Psychol.*, 1936, 48, 331-334.—The problem of the present study was to determine the relationship which holds between judgments of length made by vision and by kinaesthesia respectively. 4 S's were asked to look at a strip of cardboard; then the eyes were closed and the forefinger run along another strip; a judgment of whether the second was longer or shorter than the first was then made. 11 series of judgments were made: kinaesthetic, then visual observation; visual, then kinaesthetic; visual-visual; kinaesthetic-kinaesthetic; kinaesthetic-(visual-kinaesthetic); (visual-kinaesthetic)-visual; in other series the speed of movement and other factors were controlled. In every case the length was overestimated by the kinaesthetic sense.—*D. E. Johanssen* (Skidmore).

3890. Renqvist, Y. Der sinnesphysiologische Versuch als Grundform des exakten Experimentes. (Research on the physiology of sensation as a fundamental aspect of exact experimentation.) *Ann. Acad. Sci. fenn.*, 1934, 41. Pp. 38.—(Courtesy *Année psychol.*)

3891. Robertson, C. J. Measurement of speed of adjustment of eye to near and far vision. A further study. *Arch. Ophthalm., Chicago*, 1936, 15, 423-434.—

The author presents further data on speed of focusing alternately for near and far vision as measured with a multiple exposure tachistoscope. Findings are reported for 561 air-pilots and 95 non-pilots who had satisfied less rigid ocular requirements. The former group showed somewhat greater speed. Analysis of ocular data on observers who failed to reach speeds regarded as normal indicates that besides age the following factors tend to reduce speed of adjustment: exophoria of 8 diopters at 33 cm., astigmatic errors, acuity below 20/20; inequality of acuity in the two eyes, myopia, low angle of convergence, low or unequal accommodation, hyperphoria, and esophoria of 6 diopters at 6 meters.—*M. R. Stoll* (Massachusetts Eye and Ear Infirmary).

3892. Satô, K. [Investigations of the perception of relation. I. The problem of the experience of transition. An experimental and theoretical investigation.] *Jap. J. exp. Psychol.*, 1934, 1, 99-125; 1935, 2, 13-26.—In the first article the author describes an experiment to test the problem of the experience of transition, and in the second he takes up the theoretical implications involved, including a review of the critics. His results show a difference between the perception of relation and the perception of movement. (German summaries.)—*R. E. Garner* (Clark).

3893. Scala, N. P., & Spiegel, E. A. The pupillary reactions in combined lesions of the posterior commissure and of the pupillo-dilator tracts. A contribution to the pathogenesis of the Argyll Robertson pupil. *Arch. Ophthalm., Chicago*, 1936, 15, 195-216.—Reviewing theories concerning the location of lesions producing the Argyll Robertson pupil, the authors show that no explanations account for all of the associated phenomena. Reporting on the pupillary reflexes in cats with lesions of the posterior commissure and pupillo-dilator tracts, they show that none but extensive experimental lesions produce similar effects and even these have not resulted in typical Argyll Robertson pupils. Since histological examination shows that Argyll Robertson pupils are not characteristically associated with extensive lesions, the authors suggest that a lesion at the synapses around the cells of the sphincter nucleus would explain the various elements of the syndrome, but remark that investigation of this theory must await development of more refined technique for studying synaptic connections.—*M. R. Stoll* (Massachusetts Eye and Ear Infirmary).

3894. Schoen, Z. J. Functional asymmetry within the visual apparatus. *Amer. J. Optom.*, 1936, 13, 130-134.—Certain facts concerning ocular dominance and its role in vision are discussed. It is pointed out, in opposition to existing views, that normally both the dominant and the non-dominant eye can localize objects accurately in space. The hypothesis is advanced that functional ocular asymmetry is a necessary consequence of the fact that man possesses binocular vision, and that it must be regarded as a complex, dynamic interactional process occurring somewhere above the lower nervous levels. The phenomenon is most readily understood in terms of

binocular projection.—R. J. Beitel, Jr. (American Optical Company).

3895. Schwartz, L. H. A device for the detection of malingers. *Arch. Ophthalm., Chicago*, 1936, 15, 520-521.—A narrow mirror, which can be rotated about the rod supporting the head rest and can be inclined as desired, reflects reversed Snellen charts placed behind the observer. Since the eye which the observer sees in the mirror is not the one with which he is reading when the apparatus is adjusted for most effective use, he is too confused to conceal the actual acuity of either eye.—M. R. Stoll (Massachusetts Eye and Ear Infirmary).

3896. Smith, J. R. Spatial and binocular effects in human intensity discrimination. *J. gen. Psychol.*, 1936, 14, 318-345.—By means of an elaborate transmission system two areas of variable brightness were presented for comparison. The ratio $\frac{I}{I'}$ at any intensity level was found to increase as the retinal separation of the comparison areas was increased. Measurements were made at 4'15", 8'30", 17' and 30'. When one comparison area was presented to the fovea of each eye, in such a manner that the subjects reported two adjacent patches, the ratio $\frac{I}{I'}$ was roughly equivalent to the monocular ratios secured with the smaller separations. "The findings are related to Hecht's theory of intensity discrimination and to the general problem of retinal interaction."—H. Schlossberg (Brown).

3897. Stevens, S. S., & Newman, E. B. The localization of actual sources of sound. *Amer. J. Psychol.*, 1936, 48, 297-306.—The problem of the present study was to determine the accuracy of sound localization when pure tones of a wide range of frequencies were presented in such a way that no reflected waves could reach S's ears. Observations were taken on top of a roof, to prevent reflection of sound waves. A magnetic speaker, mounted in a 12-in. baffle, generated the tones. Sounds were presented in 13 positions on S's right, from 0° in front to 180° behind, at 15° intervals. 10 observations were made in each position. The size of the error was measured, but a reversal of quadrants was not counted as an error, i.e., a tone actually presented directly in front was counted as correct if it was reported either directly front or directly back of S. Results showed that ability to localize varies with frequency; it is constant below 1000 cycles, drops to a minimum between 2000 and 4000 cycles, and rises again at higher frequencies. The error of localization is smallest for tones located near the median plane, but confusion between the two quadrants is very frequent. Noises are more readily localized than tones. It is concluded that localization is a function of phase differences at the two ears.—D. E. Johannsen (Skidmore).

3898. Studnitz, G. v. Pupillarreaktion und Helligkeitswahrnehmung. (Pupillary reaction and brightness perception.) *Naturwissenschaften*, 1934, 22, 627-633.—A condensed discussion of the principles and results furnished by the pupillary reactions of animals, especially the speed of reaction. The dis-

cussion deals with adaptation, dilation of the pupil in the dark, narrowing reactions to brightness, differential sensitivity, comparison of the effects on the rods and cones, etc.—(Courtesy *Année psychol.*)

3899. Taylor, H. J. Vision in the ultra-violet. *Nature, Lond.*, 1935, 135, 35.—Using a single monochromator, it was found that people varying from 15 to 30 years of age were able to get the sensation of sight with $\lambda = 3130$; therefore it does not seem to be the prerogative of extreme youth.—R. Goldman (Clark).

3900. Thompson, I. M. An outline of the application of certain technical advances to some problems of cutaneous innervation and sensation. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 98-102.—The sensory block produced by the application of an alternating current to a cutaneous nerve is not a peripheral "block" phenomenon, but is inseparably associated with the sensation of tingling caused by the stimulation, and "probably depends upon occupation or diversion of attention by the bombardment of certain parts of the sensorium with impulses ascending from the stimulating electrode." The masking effect is specific for cutaneous sensations in the distribution of the stimulated nerve, but is more general for deep pressure sensations.—D. G. Marquis (Oxford, England).

3901. Tullio, P., & Di Bella, L. Recherches comparatives sur la stimulation chimique de la peau et de ses nerfs. (Comparative investigations on the chemical stimulation of the skin and its nerves.) *Arch. ital. Biol.*, 1934, 91, 123-138; *Arch. Sci. biol., Napoli*, 1934, 18, 515-540.—Using the frog and the toad, large differences were found in the extent of the reaction and latent periods for different substances (acetic, sulphuric, citric, and tannic acids; sodium chloride, potassium chloride, etc.) in the chemical excitability of the skin and the nerves.—(Courtesy *Année psychol.*)

3902. Wright, W., & Pitt, F. H. G. Hue discrimination in normal colour vision. *Proc. R. phys. Soc. Lond.*, 1934, 46, 459-473.—R. Goldman (Clark).

3903. Wright, W. D. The measurement and analysis of colour adaptation phenomena. *Proc. roy. Soc.*, 1934, 115B, 49-87.—R. R. Willoughby (Clark).

[See also abstracts 3807, 3812, 3815, 3833, 3912, 3929, 3935, 3943, 3946, 3950, 3951, 3954, 3957, 3958, 3963, 3987, 4000, 4003, 4008, 4022, 4027, 4028, 4030, 4043, 4096, 4138, 4147, 4183, 4187, 4196, 4206.]

FEELING AND EMOTION

3904. Blondel, C. La psychologie des sentiments de M. Pierre Janet. (The psychology of the feelings of M. Pierre Janet.) *Rev. Metaphys. Morale*, 1933, 40, 511-536.—An analysis and critique of Janet's work, dealing with the psychology of conduct, the biological finalism with which it is impregnated (i.e. environmental adaptation), the differentiation of primary and secondary acts, regulators of action, etc.—(Courtesy *Année psychol.*)

3905. Kaplan, B. Can emotions produce organic lesions in the digestive tract? *Med. Rec.*, N. Y., 1936, 143, 379-382.—The author presents a case history of spastic constipation and duodenal ulcer and attempts to interpret the various symptoms and the etiology of the condition with regard to the causative relationships between emotion and organic conditions. Improvement in the patient's condition was noted only after emotional disturbances had been corrected. He believes that persistent and repeated emotional disturbances in a patient endowed with a weak vegetative nervous system may so overstimulate the parasympathetic nervous system that organic lesions may develop in the upper alimentary tract and that an uncomplicated peptic ulcer unresponsive to medical treatment is of neurogenic origin for which psychotherapy is indicated.—*M. H. Erickson* (Eloise Hospital).

3906. Marshall, W. Biological reactions to earthquakes. *J. abnorm. soc. Psychol.*, 1936, 30, 462-467.—The introduction is devoted to a review of the scarce medical literature of physiological observations in earthquakes. A correlation is offered to show a relationship between the behavior in earthquakes and that occurring during other catastrophes. The contention of Brussilowski in proposing an "earthquake syndrome" is substantiated, with a few additional points added.—*C. H. Johnson* (Boston Psychopathic Hospital).

3907. Prescott, D. A. Affective factors in education. *Occupations*, 1936, 14, 723-732.—The author reviews material collected and organized by the committee on emotions and the educative process, a subcommittee of the problems and plans committee of the American Council on Education. Work in anatomy and physiology indicates three different levels of emotion, mild, strong, and profound, with different types of physiological behavior corresponding to them. In place of the theory that specific neural patterns, governed by varying synaptic resistances, release behavior and prescribe its pattern, evidence supports the view that basic physiological equilibria have to be maintained by the body and that behavior relates directly to the condition of these equilibria. Work in psychology indicates that emotional behavior is highly variable and is a function of the attitudes as well as of the stimuli. Suggestions are made relative to a scale of emotional development.—*R. H. Brown* (Yankton).

3908. Ruckmick, C. A. *Psychology of feeling and emotion*. New York, London: McGraw-Hill, 1936. Pp. 529. \$4.50.—This textbook comprises a survey and an attempt at a systematization and evaluation of the theoretical contributions and experimental research on feelings and emotions. Emphasis is placed on the phylogenetic theory of emotion, and correlations are made throughout with experimental work and neurological concepts. The book is divided into twenty chapters, for each of which there is a summary, a list of review questions and a list of selected references. Chapter headings are: a survey of the affective life; a historical perspective; the

range of the affective life; affection or elementary feeling; the classification of emotions; the James-Lange-Sergi theory; more modern theories of feeling and emotion; a phylogenetic theory of affective life; the facial expression of emotion; other experimental procedures of expression; the electrodermal response; the experimental procedures of impression; qualitative descriptions of feeling and emotion; the pathology of the affective life; the role of feeling and emotion in psychoanalysis; development of feelings and emotions in the child; feelings and emotions in the animal mind; feelings and emotions in the educational program; culture and the affective life. The final chapter constitutes a summary of the entire book, with a statement of conclusions that may be drawn. Name and subject indexes are given.—*M. H. Erickson* (Eloise Hospital).

[See also abstracts 4064, 4192.]

ATTENTION, MEMORY AND THOUGHT

3909. Biegeleisen, B., & others. [The problem of the limit of learning.] *Psychotechnika*, 1933, 7, 235-262.—The different psychic factors such as volition, feeling of unfamiliarity before the first trial, interest, and ennui, which enter into the learning process are reviewed. The psychological character of the problem must not be replaced by a purely statistical analysis. An analysis of the crude scores and learning curves on five tests leads to the conclusions that: different forms of the learning process correspond to various psychic functions; in each test the subject reaches a certain practical limit which cannot be surpassed for a long time; simple functions exist and oscillate in their appearance; the first trial on a test gives a result which is connected with function A, and with successive repetitions A disappears more and more before function B and the final result expresses B rather than A; the individual limit of learning is different for different tests when the initial and final results are compared.—(Courtesy *Année psychol.*)

3910. Blonski, P. P. *Pamyat i myshlenie*. (Memory and thought.) Moscow; Leningrad: Sotsekgiz, 1935. Pp. 214.—The author considers memory from a genetic viewpoint, which includes motor memory (habit formation), affective, eidetic, and verbal memory in four consecutive steps. By analysis and interpretation of experimental data the role of memory in thinking is discussed, with the conclusion that verbalization or speech is thinking in its highest form. In conclusion, explanations from the viewpoint defended here are offered for certain psychopathological phenomena.—*R. E. Garner* (Clark).

3911. Britt, S. H. Theories of retroactive inhibition. *Psychol. Rev.*, 1936, 43, 207-216.—An examination of the adequacy of the three major theoretical explanations of retroactive inhibition in the light of the experimental work. The perseverative theory has been proved inadequate as an exclusive explanation by the findings concerning the relation of similarity of material to amount of retroaction and by the discovery that the amount is not affected by the

time elapsing between original and interpolated learning. De Camp's transfer theory is too general to explain the facts. Webb's theory, which is a combination of the "transfer" and "disruption" hypotheses, is considered the most adequate. Webb pointed out that there might be positive transfer of facilitative or inhibitive factors, so that it could not be predicted whether such positive transfer would tend to increase or decrease the retroactive effect. The total transfer effect is the sum of both positive and negative factors. Moreover, transfer is not simply of content, but may be of methods, environmental settings, etc., which are favorable in effect. The same factors—similarity, degree of learning, etc.—which have been studied in experiments on transfer are present equally in those on retroaction, showing the close relation between these phenomena.—A. G. Bills (Chicago).

3912. Hayes, S. P. The memory of blind children. *II. Teach. Forum (Blind)*, 1936, 8, 71-77.—Findings indicate that the blind excel in certain memory functions because of good habits of attention to auditory stimuli. On memory for related words the conclusion is reached that the blind succeed about as well as the seeing. Where failure occurs, it seems to be due to the greater difficulty blind subjects have in understanding situations outside their experience, rather than to poorer comprehension. Brief stories used as memory material place the blind at a disadvantage, probably because material taken in through the ear is usually more difficult than that taken in through the eye. Logical memory tests elicited about the same results as from sighted subjects. A test employing stories was used by the author in two schools for the blind and compared with Pyle's results for sighted subjects. The blind were midway between Pyle's results for city and for country children. The author does not find general compensatory superiority in memory among the blind. They have learned to make use of native abilities where there is need for special attention or retention is motivated. In memory as in sensation, compensation seems to be the reward of effort rather than a special gift.—S. S. Hawk (Southern Calif.)

3913. Kratina, F. Celostní hledisko v psychologii myšlení a chování. (The totalitarian principle in the psychology of thinking and volition.) *Psychologie, Brno*, 1935, 1, 3-28.—The author demonstrates the prevalence of the totalitarian principle in modern psychology and finds it applicable even in the lower stages of psychological development, as in children, animals, and primitives. He uses the method of memorizing nonsense syllables as an example to demonstrate the fact that associations must be fundamentally totalitarian in character and do not exist as separate theoretical entities. To prove the operation of the totalitarian principle in the various functions the following experiments are quoted and analyzed: Selz's theory of complexes is taken to show the application during processes of productive thinking; Köhler's experiment with chimpanzees serves as an example of creative thinking; in the

sphere of volition experiments by Ach and Michotte are quoted and described; Lewin's studies of volition are used to demonstrate the totalitarian aspects in instinctive actions.—K. Sicha (New York).

3914. McGeoch, J. A. The direction and extent of intraserial associations at recall. *Amer. J. Psychol.*, 1936, 48, 221-245.—The present study attempted to determine the direction in which associations are formed, and whether or not associations are formed between items spatially remote in the series. 73 college students acted as S's in 4 different experiments. They learned lists of 10 or 16 2-syllable adjectives, or consonant syllables (Witmer's), by the anticipation method. After this E presented orally random words from the lists, and asked S to report the first word that came to mind. The results show that there is a recall of a large number of items removed from the stimulus word by one or more intervening serial positions. About 30% on the average are backward associations. Associations coming from outside the list have longer reaction times than those coming from the list. Words of all degrees of remoteness from the stimulus word are given in decreasing frequency from the zero position, but the reaction times of the more remote associations do not differ significantly from those in the zero position.—D. E. Johannsen (Skidmore).

3915. Meenes, M., & Morton, M. A. Characteristics of the eidetic phenomenon. *J. gen. Psychol.*, 1936, 14, 370-391.—An experimental group of 8 eidetic children and a matched control group were selected from 75 colored sixth-grade children. Figures ranging from squares of colored paper to complex pictures were presented for 10 seconds, under various instructions. The similarities and differences found between eidetic (EI), mental (MI), and after-images (AI) with the different subjects are presented in detail. In general the study corroborates the usual criteria for distinguishing between EI and AI, but not EI and MI. The MI and AI of eidetics differ from those of normal subjects.—H. Schlosberg (Brown).

3916. Melton, A. W. The methodology of experimental studies of human learning and retention. I. The functions of a methodology and the available criteria for evaluating different experimental methods. *Psychol. Bull.*, 1936, 33, 305-394.—The increasing diversity of methods of experimental control and measurement in studies of human learning indicates the need for an experimental approach to methodological problems. The reviewer emphasizes the value of a standardized methodology, based on the most valid and reliable methods of control and measurement, in increasing the validity and reliability of isolated experiments and in increasing the opportunity for a true systematization of the results of many experiments. Criteria for evaluating experimental methods are discussed under the headings validity, reliability, and conformity with the conditions of other experiments that have major systematic significance in the field. Work on the validity of experimental methods is reviewed in terms of the

experimental error and the degree to which the experimental method represents the operations used to define the phenomenon indicated in the interpretation of results. The writer discusses the nature and application to experimental methods of learning of two criteria of reliability: (1) "that the experimental method is more adequate the smaller the variable error in the measurements obtained when it is used" and (2) "that a method is more adequate the greater the possibility of an accurate statistical analysis of the variable errors in the data obtained when that method is used." Bibliography of 146 titles.—*R. H. Brown* (Yankton).

3917. Morton, D. M. Number forms and arithmetical ability in children. *Brit. J. educ. Psychol.*, 1936, 6, 58-73.—A survey was made to determine the incidence of number forms of the type described by Galton among a population of 867 children in the day schools of Aberdeen, and the relation, if any, between the presence or absence of such forms and relative arithmetical ability. Number forms were found in 1 per 40 girls, 1 per 47 boys and 1 per 43 for the whole group. Number forms were more rudimentary in these children than reported by others for adults. Those children who had number forms "were found, as a group, to be of superior ability in arithmetic. . . . This correlation, measured by Holzinger's biserial r formula, is found to be .67."—*K. M. Cowdery* (Stanford).

3918. Porto-Carrero, J. P. Psychoanalyse do testemunho. (Psychoanalysis of testimony.) *Arch. brasil. Hyg. ment.*, 1934, 7, 91-103.—The conflict between the judge and the witness is like the conflict between the ego and the super-ego. The theory of secondary elaboration in dreams is applied to testimony. The role of autism in the misrepresentations by the witness is shown; memory losses are explained by the phenomenon of repression; and false recognitions are explained by three psychoanalytic mechanisms, the two most important being false recognition of repressed memories and either dream or reverie fancies.—(Courtesy *Année psychol.*)

3919. Ruch, F. L. The method of common points of mastery as a technique in human learning experimentation. *Psychol. Rev.*, 1936, 43, 229-234.—The errors in the traditional methods of measuring learning ability, i.e., either in terms of absolute amount of improvement or percentage improvement of final over initial level, are that (1) initial ability is seldom the same for all subjects, (2) the units of accomplishment are not equal, and (3) there is no absolute zero from which to compute. The method of common points is an improvement. It has two variants: (A) Initial and final points of common mastery for all subjects are selected from the smoothed curves, and learning ability is measured by the trials, errors or time required to improve from the initial to the final common point of mastery. (B) This differs only in that learning ability is defined as the amount of improvement in the first segment of trials beyond the initial common point. Two problems handled by this method are: relation of initial ability to

physiological limit, and correlation of abilities in learning of different tasks. The results indicate higher correlations than those obtained by older methods. It is inferred that this is due to elimination of the attenuating factors.—*A. G. Bills* (Chicago).

3920. Witwicki, T. O reprezentacji czyli stosunku obrazu do przedmiotu odtworzonego. (On representation or the relation between the image and the reproduced object.) *Lwów: Nakładem Towarzystwa Naukowego we Lwowie*, 1935. Pp. 122.—*R. R. Willoughby* (Clark).

3921. Wytyczak, L. Analiza psychologiczna testu Ebbinghaus. (A psychological analysis of the Ebbinghaus test.) *Prace Inst. psychol. Univ. Lwowie*, 1935, 1, No. 2. Pp. 29,—16 graduate students were given a completion test in which syllables rather than whole words were left out. They were asked to make introspective reports of the manner in which they completed each word. Five types could be distinguished: (1) The word is completed immediately after reading it. (2) The person waits a moment for the missing syllable, without trying actively to find it. These two types are spontaneous and accompanied by no conscious effort. (3) The incomplete word is repeated several times mechanically in order to elicit the missing part, no attempt being made to reason about the possible solution. (4) The subject tries to complete the word by analyzing the grammatical structure of the sentence in order to see what the gender or tense, etc., of the missing word should be. (5) The whole selection is analyzed logically in order to find the ideas expressed in it and thus gain cues as to what the incompleting words may mean. Type 5 was the most frequent one, accounting for 29% of all completions. Type 1 was almost equally frequent, with 27%. The other types were relatively infrequent. If type 5 alone is considered as indicating intelligent behavior, the Ebbinghaus test can hardly be called a test of general intelligence.—*Z. Piotrowski* (Columbia).

[See also abstracts 4292, 4322.]

NERVOUS SYSTEM

3922. Aring, C. D., & Fulton, J. F. Relation of the cerebrum to the cerebellum. II. Cerebellar tremor in the monkey and its absence after removal of the principal excitable areas of the cerebellar cortex (areas 4 and 6a, upper part). III. Accentuation of cerebellar tremor following lesions of the premotor area (area 6a, upper part). *Arch. Neurol. Psychiat.*, Chicago, 1936, 35, 439-466.—The tremor which appears in voluntary movements after decerebellation is abolished by removal of the entire excitable motor cortex. Removal of the premotor cortex alone (area 6a) causes marked accentuation of cerebellar signs, while removal of area 4 temporarily abolishes and permanently depresses all signs of cerebellar deficit. Removal of the frontal association areas does not alter previously established cerebellar signs.—*D. G. Marquis* (Oxford, England).

3923. Asmussen, E., & Lindhard, J. Potential-schwankungen bei direkter Reizung von motorischen

Endplatten. (Potential variations with direct stimulation of motor end plates.) *K. danske vidensk. selsk. biol. Meddel.*, 1933, 11, 3-31.—(*Biol. Abstr.* X: 5650).

3924. **Barris, R. W.** A pupillo-constrictor area in the cerebral cortex of the cat and its relationship to the pretectal area. *J. comp. Neurol.*, 1936, 63, 353-368.—Electrical stimulation of a small area on the medial and lateral surfaces of the lower portion of the posterior lateral gyrus of the cat's brain gave bilateral and approximately equal constriction of the pupils. Following lesions in this region, degenerated corticofugal fibers were traced to the pretectal area, the superior colliculus, and the pontine nuclei.—*C. P. Stone* (Stanford).

3925. **Bartley, S. H.** Temporal and spatial summation of extrinsic impulses with the intrinsic activity of the cortex. *J. cell. comp. Physiol.*, 1936, 8, 41-62.—Cortical responses of the rabbit to both photic stimulation of the retina and electrical stimulation of the optic nerve were studied by paired, triple and repeated stimuli with the aid of an amplifier and cathode-ray oscillograph. A rather diffuse cortical localization to retinal points was found. The cortex can respond to an "on" stimulus which follows an "off" stimulus with an interval as short as 10 σ . The size of the response to the second shock or flash is determined by the interval between them. The first stimulus synchronizes a number of elements and starts a cycle of the same proportions as those existing spontaneously. The activity cycle and the interval between successive stimuli determine the response.—*O. W. Richards* (Yale).

3926. **Blinks, L. R.** The effects of current flow on bioelectric potential. II. *Halicystis*. *J. gen. Physiol.*, 1936, 19, 867-898.—*M. A. Rubin* (Clark).

3927. **Bodechtel, G.** Anatomie, Physiologie, Pathologie und Klinik der zentralen Anteile des vegetativen Nervensystems. (Anatomy, physiology, pathology and clinic of the central section of the vegetative nervous system.) *Fortschr. Neurol. Psychiat.*, 1936, 8, 168-174.—A short summary of investigations dealing with the midbrain. The first section, on anatomy, includes discussions of work by Spatz, Grewing, and others. The author finds that little has been done in the field of histopathology. The next part deals with the physiology of the midbrain, with a short discussion of animal experimental work touching on Keller's work on cats, in which he found the midbrain to be a regulator for the warmth reaction of the skin and for the release of anger reactions. The final section deals with clinical and pathological findings.—*D. S. Oberlin* (Newark, Del.).

3928. **Bouman, H. D.** The effect of strychnine on the time constant of nerve excitation. *J. Physiol.*, 1936, 86, 67P-69P.—*M. A. Rubin* (Clark).

3929. **Bronk, D. W.** The mechanism of sensory end organs. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 60-82.—The methods and results of the study of the activity of sensory endings and their fiber connections are reviewed, with particular reference to the analysis of single sense organs, and the mechanism

of adaptation and intensity changes.—*D. G. Marquis* (Oxford, England).

3930. **Coghill, G. E., & Angulo y Gonzalez, A. W.** The development of the sensory system in relation to the local sign. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 265-273.—In the early developmental stages of an undifferentiated vertebrate such as the salamander, a single Rohon-Beard nerve cell performs both sensory and associational functions, and no discrimination of modality or locus of stimulation is possible. The subsequent development of separate sensory cells from the neural crest permits the individuation of specific afferent functions possessing local sign.—*D. G. Marquis* (Oxford, England).

3931. **Cowan, S. L.** The effect of certain substances on the transmission of excitation from motor nerve to voluntary muscle. *J. Physiol.*, 1936, 86, 61P-63P.—*M. A. Rubin* (Clark).

3932. **Dale, H.** Chemical transmission of the effects of nerve impulses. *Brit. med. J.*, 1934, No. 3827, 835-841.—(*Biol. Abstr.* X: 5630).

3933. **Detwiler, S. R.** Neuroembryology: an experimental study. New York: Macmillan, 1936. Pp. 218. \$3.75.—After an introduction, the author discusses the following topics: history of the neurone concept; surgery of the embryo as a means of studying neurogenesis; the neuroblast and sheath cell in the development of peripheral nerves; experimental alteration of growth patterns in development of peripheral nerves; factors controlling growth of nerves in vitro; behavior of grafted limbs; developmental responses of nerve centers to alterations in the peripheral field; spinal cord grafting experiments; cellular proliferation; experiments upon segmentation in the nervous system; and experimental study of Mauthner's fibers in relation to reflex activity. There is an 18-page bibliography.—*W. S. Hunter* (Clark).

3934. **Donini, F.** Contributo allo studio della cronassia motoria. (Contribution to the study of motor chronaxy.) *Riv. Patol. nerv. ment.*, 1934, 43, 78-83.—(*Biol. Abstr.* X: 5658).

3935. **Evans, J. P.** A study of the sensory defects resulting from excision of cerebral substance in humans. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 331-370.—Utilizing the methods of sensory examination outlined by Head and his co-workers, studies were made of 17 cases after surgical removal of cerebral substance from various portions of the hemispheres. Extensive ablations in extra-parietal areas resulted in no detectable somesthetic disturbance, and limited excisions in the pre- and post-central gyri and in the central portion of the parietal lobe were followed by transient, if any, sensory dysfunction. Limited excisions in the region of the supramarginal gyrus, however, caused extensive and permanent loss of somesthetic sensation. It is suggested that lesions of the primary cortical centers do not involve the entire representation of any given part of the body, while lesions of the highest integrative center result in a more or less extensive generalized impairment of somesthetic sensation.—*D. G. Marquis* (Oxford, England).

3936. Ferraro, A., & Barrera, S. E. The effects of lesions of the dorsal column nuclei in the *Macacus rhesus*. *Brain*, 1936, 59, 76-99.—Following lesions of the nuclei graciles and cuneati the symptoms are mainly a loss of sense of position in the extremities, hypotonia and a transient loss or diminution of the hopping and placing reflexes. There are no appreciable changes in superficial sensibility, and the deep reflexes are not only preserved but appear to be increased. The symptoms are similar to, but less severe than, those following destruction of the posterior columns at high cervical levels, while they are more severe than those following removal of the post-central cortex.—D. G. Marquis (Oxford, England).

3937. Ferraro, A., & Barrera, S. E. Summary on clinical and anatomical findings following lesions in the dorsal column system of *Macacus rhesus* monkeys. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 371-395.—The anatomical relationships of the posterior column fibers, the posterior column nuclei, and the medial lemniscus are outlined on the basis of experimental studies of monkeys. The symptoms following section of the posterior columns, destruction of the posterior column nuclei, or removal of the post-central convolutions are similar in nature, differing only in severity.—D. G. Marquis (Oxford, England).

3938. Foerster, O. [Ed.] *Rückenmark, Hirnstamm, Kleinhirn*. (Spinal cord, brain stem, and cerebellum.) Berlin: Springer, 1936. Pp. 639. RM. 62.—R. R. Willoughby (Clark).

3939. Ford, F. R., & Walsh, F. B. Clinical observations upon the importance of the vestibular reflexes in ocular movements. The effects of section of one or both vestibular nerves. *Johns Hopk. Hosp. Bull.*, 1936, 58, 80-88.—In patients with supranuclear paralysis of voluntary eye movements, appropriate vestibular stimulation causes tonic deviation of the eyes, but there is no quick compensatory movement and hence no nystagmus. In two patients with bilateral section of the vestibular nerves, there was a loss of reflex ocular fixation during movements of the head. "These observations indicate that the slow phase of induced vestibular nystagmus is the expression of a vestibulo-ocular reflex which, under physiological conditions, is essential for accurate fixation of the eyes during movements of the head."—D. G. Marquis (Oxford, England).

3940. Frazier, C. H., Alpers, B. J., & Lewy, F. H. The anatomical localization of the hypothalamic centre for the regulation of temperature. *Brain*, 1936, 59, 122-129.—Mesially placed bilateral lesions in the floor of the third ventricle by means of the Horsley-Clarke apparatus produce complete loss of temperature control in cats. Unilateral or laterally placed lesions cause only transitory disturbances. The vital area for temperature regulation corresponds to the nucleus hypothalamicus anterior in cats and the substantia grisea in man.—D. G. Marquis (Oxford, England).

3941. Frazier, C. H., Watts, J. W., & Uhle, C. A. W. Source of visceral impulses. *Proc. Ass. Res. nerv.*

ment. Dis., 1935, 15, 239-262.—Studies of the abnormalities of bladder function, tone, and sensation in patients with brain tumor provide evidence of representation of the bladder in the cerebral cortex, the region of the hypothalamus, and even more caudad in the brain stem.—D. G. Marquis (Oxford, England).

3942. Gasser, H. S. Conduction in nerves in relation to fiber types. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 35-59.—The velocity of conduction of fibers in afferent nerves varies over a wide range and is correlated with the structure and size of the fibers. The functions of the different fibers have been studied by means of progressive nerve block induced by compression or by cocaine. The fibers belonging to different sensory modalities are widely distributed throughout the various fiber size groups. There is evidence that pressure and cold fibers belong to the fastest (A) group, but pain and warmth are carried by fibers of all groups. There seems to be little possibility of associating the various sensations with any one elevation of the electroneurogram.—D. G. Marquis (Oxford, England).

3943. Hinsey, J. C. The anatomical relations of the sympathetic system to visceral sensation. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 105-180.—Review of the present evidence concerning the receptor terminations, the course, and central connections of visceral afferent fibers.—D. G. Marquis (Oxford, England).

3944. Holst, E. v. Vom Dualismus der motorischen und der automatisch-rhythmischen Funktion im Rückenmark und von Wesen des automatischen Rhythmus. (The dualism of motor and spontaneous rhythmic function in the spinal cord and the nature of the spontaneous rhythm.) *Pflüg. Arch. ges. Physiol.*, 1936, 237, 356-378.—M. A. Rubin (Clark).

3945. Horn, L., & Potzl, O. Über eine besondere Formung der Calcarinagegend bei einem optisch Begabten. (Concerning a special formation of the calcarine zone in an individual optically gifted.) *Wien. klin. Wschr.*, 1933, 46, 1313-1317.—Examination of the brain of a left-handed engineer, who had been a very good water-color artist with a fine sense of colors, showed rare variations in the two regions surrounding the calcarine fissure. According to the authors, the cortical development found is related to the optical aptitude of the subject.—(Courtesy *Année psychol.*)

3946. Lanier, L. H. An experimental study of cutaneous innervation. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 437-456.—Summary of the methods and results reported in *Arch. Neurol. Psychiat.*, Chicago, 1935, 34, 1-60. (See X: 1366.)—D. G. Marquis (Oxford, England).

3947. Lewy, F. H., & Frazier, C. H. The disturbance of the time relation to sensitivity in major trigeminal neuralgia. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 497-508.—Evidence from the study of 19 patients is presented to show that in trigeminal neuralgia there is a double pathological process

located in the peripheral nerve, and in the thalamo-striate-cortical system. The existence of a central lesion is indicated by the increase and instability of rheobase and chronaxy not only in the neuralgic area but also on the whole side of the body, the high blood pressure and renal dysfunction, and the frequent simultaneous pyramidal and extrapyramidal signs in the majority of the cases.—*D. G. Marquis* (Oxford, England).

3948. Lillie, R. S. The passive iron wire model of protoplasmic and nervous transmission and its physiological analogues. *Biol. Rev.*, 1936, 11, 181-210.—*M. A. Rubin* (Clark).

3949. Marburg, O. Der Einfluss des Kleinhirns und Stammganglien auf die Sprache. (The influence of the cerebellum and basal ganglia upon speech.) In [Vol. Jubilaire en l'honneur G. Marinesco]. Bucarest: Societe Roumaine de Neurologie, Psychiatrie et Endocrinologie, 1933. Pp. 413-418.—(*Biol. Abstr.* X: 5644).

3950. Penfield, W. A contribution to the mechanism of intracranial pain. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 399-416.—Observations carried out on patients during cranial operations under local anesthesia demonstrate that the skull, the dura and the brain are insensitive to cutting or electrical stimulation. The dural sinuses and some of the meningeal vessels are sensitive to pressure, traction, heat and electrical stimulation. Most headaches can probably be explained on the basis of traction or pressure upon one of these sensitive areas.—*D. G. Marquis* (Oxford, England).

3951. Poliak, S., & Hayashi, R. The cerebral representation of the retina in the chimpanzee. *Brain*, 1936, 59, 51-60.—Anatomical study of the brain of the chimpanzee operated by Spence and Fulton (see X: 3957) showed that the removal of the posterior and lateral portions of the area striata produced a sharply delimited degeneration in the intermediate or macular segment of the lateral geniculate body.—*D. G. Marquis* (Oxford, England).

3952. Ranson, S. W., Droegemueller, W. H., Davenport, H. K., & Fisher, C. Number, size and myelination of the sensory fibers in the cerebrospinal nerves. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 3-34.—*D. G. Marquis* (Oxford, England).

3953. Richter, J. Über Funktions- und Erregbarkeitsveränderung von Nerv und Muskel in situ in den ersten Stadien nach Nervenläsion. (Change in function and excitability of nerve and muscle in situ during the first stages after nerve transection.) *Pflüg. Arch. ges. Physiol.*, 1936, 237, 319-329.—*M. A. Rubin* (Clark).

3954. Ruch, T. C. Cortical localization of somatic sensibility. The effect of precentral, postcentral and posterior parietal lesions upon the performance of monkeys trained to discriminate weights. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 289-330.—The localization of somatic sensibility was studied in monkeys trained in the discrimination of small differences in the magnitude of lifted weights. Lesions

of the precentral gyrus, postcentral gyrus or posterior parietal lobe exerted no permanent effect on the ability of weight discrimination. This function must be subserved either by a wide extent of pre- and post-central cortex or by the thalamus. Phylogenetic considerations suggest a progressive "corticalization" of somatic sensory function, which is continued by the successive development of hierarchy of sensory areas within the cortex.—*D. G. Marquis* (Oxford, England).

3955. Ryan, T. A. Neural resources of psychological performance. *Amer. J. Psychol.*, 1936, 48, 193-220.—The purpose of the present paper is "to examine some of these popular (neural) hypotheses in the light of what is known about psychological performance, and then to inspect certain recent investigations in the field of neural function. From these investigations we propose to pick out facts which purport to throw light on psychological performances and to regard them from a psychological point of view." The theories which are considered are nervous conduction (in cortex and at synapses) and cortical localization. Lashley's studies of cerebral localization of function are reported critically, and Herrick's treatment of nervous functioning is analyzed. The chief destructive criticism advanced is against the confusing use of psychological terms by neurologists.—*D. E. Johannsen* (Skidmore).

3956. Schmitt, F. O., & Fourt, L. Thermal inactivation of medullated nerve. *Amer. J. Physiol.*, 1936, 115, 564-568.—The attempt was made to establish whether disorientation of organized structures in the axon or other factors might be the immediate cause of failure in the thermal inactivation of the nerve. Extinction always occurred at approximately 43.2° C. Shortening and substrate activity changes were less than 10% at this temperature, but evidence from X-ray diffraction indicated that the radial orientation of lipid micelles decreased.—*T. W. Forbes* (N. Y. Psychiatric Institute).

3957. Spence, K. W., & Fulton, J. F. The effects of occipital lobectomy on vision in chimpanzee. *Brain*, 1936, 59, 35-50.—Following removal of the entire left area striata in an adolescent chimpanzee, there was a slight but consistent loss in visual acuity ranging from 5 to 15% at four brightness levels (Ives test object). After a second operation in which the posterior and lateral portions of the right area striata were removed, vision was restricted to the extreme left peripheral fields. In acuity tests, the animal failed to discriminate even a pattern sixteen times as large as that discriminated pre-operatively.—*D. G. Marquis* (Oxford, England).

3958. White, J. C. The neurological mechanism of cardio-aortic pain. *Proc. Ass. Res. nerv. ment. Dis.*, 1935, 15, 181-209.—Cardio-aortic pain can be consistently relieved by the destruction of the upper thoracic sympathetic ganglia or their rami. These procedures apparently act by interrupting the sensory pathways, and not by secondary effects upon the heart. The viscerocutaneous reflex mechanism of referred pain postulated by Mackenzie is not sufficient

to account for cardiac pain, which reaches the sensorium in large part by direct transmission over visceral afferent pathways. Clinical and experimental evidence shows that the axone reflex is not an important factor in pain perception.—*D. G. Marquis* (Oxford, England).

[See also abstracts 3838, 3848, 3867, 3900, 3963, 3972, 3979, 3980, 3981, 3999, 4007, 4010, 4012.]

MOTOR PHENOMENA AND ACTION

3959. Abramson, E. Über die Resistenz des Muskels bei verschiedener Belastung und Länge. (The resistance of muscle under different tensions and at different lengths.) *Arbeitsphysiologie*, 1933, 7, 143-149.—(*Biol. Abstr.* X: 5649).

3960. Allers, R., & Bierer, J. Über ein- und beidhändige Arbeit am Ergographen. (Work with one and both hands on the ergograph.) *Arbeitsphysiologie*, 1935, 8, 490-501.—The work done by both hands on the ergograph is less than the sum of the work done by the hands individually. This does not appear to be due to a direct inhibitory effect of one hand upon the other; the authors consider it attributable to some central inhibition.—*H. E. Burr* (Ohio State).

3961. Baltaceano, G., & Vasiliu, C. Le réflexe lingual, ses relations avec la zone réflexe sino-carotidienne. (The tongue reflex and its relation to the sino-carotid reflex zone.) *C. R. Soc. Biol., Paris*, 1934, 115, 1323-1326.—The tongue reflex consists in producing, when the tongue is drawn in, a noticeable hypotension and a decrease in the volume of the arch, an interruption of the breathing, and contractions in the digestive system. The innervation of the sinus carotids make these effects of the traction of the tongue disappear.—(*Courtesy Année psychol.*)

3962. Barcroft, J. Chemical conditions of mental development. *Irish J. med. Sci.*, 1935, No. 115, 302ff.—The author describes in detail the mental phenomena observed in relation to extremes of body temperature, diminished and increased concentration of CO₂ and of hydrogen ions in the blood, and poverty and excess of oxygen. It was not until the chemical and physical condition of the milieu had attained to a fixity that the pattern of human thought was developed.—(*Courtesy J. ment. Sci.*)

3963. Beccari, E. Contribution à l'étude de l'innervation sensible pulmonaire et des réflexes proprioceptifs respiratoires. (Contribution to the study of the sensory innervation of the lung and the proprioceptive respiratory reflexes.) *Arch. int. Physiol.*, 1934, 39, 257-294.—Action potentials were recorded. Muscular sensitivity plays only an accessory role in proprioceptive reflexes. The action potentials preceding the respiratory reflexes had similar characteristics.—(*Courtesy Année psychol.*)

3964. Beschka, R. Zur Analyse des Aktionsstromes normaler und gesteigerter Sehnenreflexe. (On the analysis of the action current of normal and intensified tendon reflexes.) *Z. ges. Neurol. Psychiat.*, 1936, 154,

275-291.—An introductory section is devoted to matters of technique. Comparative observations led the writer to use needle electrodes isolated up to the point for the bulk of his work. With the aid of oscillographic photographs, he describes the character of the action current of the patellar reflex and its dependence upon such conditions as stimulus intensity, state of contraction of the muscle, temperature, and various pathological states (hemiplegia, neurasthenia, etc.).—*C. W. Fox* (Rochester).

3965. Braune, J. Über den Einfluss fleischloser Kost auf die Geistestätigkeit des Menschen. (The influence of meatless diet on the mental activity of man.) *Veroff. Med. Verw.*, 1935, 44, No. 10. Pp. 26.—*R. R. Willoughby* (Clark).

3966. Brogden, W., Mettler, F. A., & Culler, E. Experimentally increased intracranial pressure. *Arch. Otolaryng.*, Chicago, 1935, 21, 464-465.—*R. R. Willoughby* (Clark).

3967. Diserens, C. M., & Wood, T. W. Psychophysiological behavior under various types of literature. *J. abnorm. soc. Psychol.*, 1936, 30, 484-501.—The purposes of the investigation were twofold: to ascertain whether the physiological functions of respiration and blood volume are differentiated while under the influences of various types of literature; to determine whether such physiological variants are indicative of emotional behavior. A modified form of the Lahmann plethysmograph was used for the study. The four types of literature used were: current literature, sex literature, poetry and biblical. Individuals who represent in high degree the physiologically active type were most frequently and easily influenced by sex literature. The abstract thinking type of individual was not readily influenced by sex literature. Retentivity of specific subject matter, as shown by objective examinations, bears little relationship to the emotivity of an individual. The authors believe that literary materials, when properly selected as to length and subject matter, form excellent experimental stimuli for the evocation of emotional phenomena.—*C. H. Johnson* (Boston Psychopathic Hospital).

3968. Fuchs, R. F., & Foerster, H. R. über das Arbeitsmaximum des Skelettmuskels bei der Ermüdung. (The maximal work of skeletal muscle in fatigue.) *Arbeitsphysiologie*, 1933, 6, 622-639.—(*Biol. Abstr.* X: 5664).

3969. Graf, O. Untersuchungen über die Wirkung zwangsläufiger zeitlicher Regelung von Arbeitsvorgängen. II. Der Arbeitsablauf bei freier Arbeit. (Investigations on the effect of temporal regulation of work processes. II. The course of work when unregulated.) *Arbeitsphysiologie*, 1933, 7, 333-357.—(*Biol. Abstr.* X: 5671).

3970. Graf, O. Untersuchungen über die Wirkung zwangsläufiger zeitlicher Regelung von Arbeitsvorgängen. III. Die Schwankungen der Leistungsfähigkeit während des Tages und die Frage einer "physiologischen Arbeitskurve." (III. The variations of capacity during the day and the question of

a "physiological work curve." *Arbeitsphysiologie*, 1933, 7, 358-380.—(*Biol. Abstr.* X: 5672).

3971. Graf, O. Untersuchungen über die Wirkung zwangsläufiger zeitlicher Regelung von Arbeitsvorgängen. IV. Die Regelung des Arbeitsablaufes bei freier Arbeit als optimale Arbeitsform. (IV. The regulation of the course of work in unregulated work as an optimal form of work.) *Arbeitsphysiologie*, 1933, 7, 381-397.—(*Biol. Abstr.* X: 5673).

3972. Henderson, V. E., & Craigie, E. H. On the respiratory center. *Amer. J. Physiol.*, 1936, 115, 520-529.—Cats were used under urethane and ether anesthesia. Nerves were sectioned with a splinter of safety razor blade or with scissors. Artificial respiration was applied through the post-operative depression. The respiratory center is believed to lie in the medial third of the medulla at about the level of the junction of the middle and upper thirds of the hypoglossal nucleus; it may be limited below by the pyramidal crossing.—*T. W. Forbes* (N. Y. Psychiatric Institute).

3973. Higginson, G. D. Human learning with a rotated maze. *J. Psychol.*, 1936, 1, 277-294.—In order to shed light on a number of problems in learning, the writer had 15 subjects learn 4 times a single maze pattern in 4 altered positions. These positions were obtained by rotating the maze around a central point so that the positions of start and goal were each moved 4 times over arcs of about 3 in. Average numbers of trials required were: position I 33, II 25, III 18, IV 18. Average blind alley scores were: position I 255, II 189, III 85, IV 82. Certain blind alleys were entered or missed more often in all 4 positions regardless of the particular behavior patterns involved. Frequency of alley entrances exhibits little bearing upon firstness and lastness of elimination. Learning under these conditions does not seem to affect the total number of different alleys entered upon in subsequent positions of the maze.—*J. McV. Hunt* (St. Elizabeth's Hospital).

3974. Hoskins, R. G. An endocrine approach to psychodynamics. *Psychoanal. Quart.*, 1936, 1, 87-107.—This article was written by an endocrinologist to clarify the relationships existing between psychoanalysis and endocrinology. Throughout the manuscript the editors of the journal have interpolated footnotes and comments amending or elucidating the author's points of view. Particular emphasis is placed by the author upon the necessity for understanding the factors operative in each immediate situation and upon the possibility of the chemical conditioning of psychologic behavior by endocrine secretions. An analogy is drawn between erotic and death instincts and anabolic and catabolic processes. Discussion is given of hypoplastic and constitutional types and of the various pituitary, thyroid, adrenal and gonad types. Throughout emphasis is placed upon the implications of the effect upon personality and immediate psychologic behavior of the various endocrine secretions and the possible relationships to psychodynamic concepts. Hoskins summarizes with the statement that "certain of the Freudian concepts

seemed to carry endocrine connotations, and a considerable amount of information on endocrine influences on personality is in need of psychodynamic interpretations." A 28-item bibliography is appended.—*M. H. Erickson* (Eloise Hospital).

3975. Hull, C. J. A study of laterality test items. *J. exp. Educ.*, 1936, 4, 287-290.—The purpose of this study was to discover the items which might warrant inclusion in a questionnaire on side preference in unilateral motor activities. A performance test of 40 items given twice to 50 subjects yielded 20 items in which the subjects performed the activity with the same side in over 90% of the cases. On duplicate questionnaires given to 160 subjects, 14 of the reliable performance items were answered the same over 90% of the time. In comparing answers on the first questionnaire and first performance test 14 items were answered identically 90% of the time. Of the items which were proved significantly reliable on test-retest of performance and questionnaire, and which were indicated as valid by comparison of the written answer and the actual performance, 12 items were answered identically in over 90% of the cases in all three categories. These 12 items are listed in the report for use in a sidedness questionnaire.—*H. W. Karn* (Pittsburgh).

3976. Jellinek, E. M., & Fertig, J. W. A method for the estimation of average heart rates from cardiachronographic records. *J. Psychol.*, 1936, 1, 193-199.—The writers present the mathematical relation between the area of a cardiachronographic record and the numbers of beats. Using their formula, estimates of the heart rate may be obtained quickly from planimetric determinations of the areas on the records.—*J. McV. Hunt* (St. Elizabeth's Hospital).

3977. Knoll, W., & Eggers, I. Kinematographische Bewegungsstudien. V. Schwerpunktsbestimmungen unter besonderer Berücksichtigung der Sprünge. (Cinematographic studies of movement. V. Determinations of the difficulty point, with special reference to jumping.) *Arbeitsphysiologie*, 1933, 7, 398-408.—(*Biol. Abstr.* X: 5682).

3978. Kobrak, H. Influence of the middle ear on labyrinthine pressure. *Arch. Otolaryng., Chicago*, 1935, 21, 547-560.—(*Biol. Abstr.* X: 5603).

3979. Lindberg, A. E. External inhibition or negative induction within the cerebral cortex. *J. gen. Psychol.*, 1936, 14, 466-472.—Miller's paper, "A failure to confirm Pavlov's hypothesis of external inhibition," does not take into consideration the conditions which determine the occurrence of this type of inhibition. An external stimulus may result in external inhibition or may actually increase the strength of the conditioned reflex, depending on the following factors: (1) strength of the external agent; (2) stability and strength of the conditioned reflex; (3) temporal relations of the stimuli; (4) previous stimulation with the external agent; (5) type of nervous system. Lindberg emphasizes the large number of conditions which determine the activity of the cerebral cortex in an intact animal.—*H. Schlosberg* (Brown).

3980. Lindsley, D. B., & Curnen, E. C. An electromyographic study of myotonia. *Arch. Neurol. Psychiat.*, Chicago, 1936, 35, 253-269.—Myotonia is characterized by the persistence of contraction of a muscle during attempted relaxation. Electromyographic study reveals that the after-contraction of myotonic muscles is accompanied by an outburst of action currents. The phenomenon must therefore be neurogenic rather than myogenic, and the evidence favors the hypothesis that it is of reflex origin and is due to the persistent discharge of hyperexcitable sensory end-organs in the muscle.—D. G. Marquis (Oxford, England).

3981. Marshak, M. E., & Shlykov, A. G. [Visual chronaxy and static and dynamic work.] *Fiziol. Zh. U.S.S.R.*, 1934, 17, 994-1003.—An electrode near the cheek bone makes possible the measurement of "visual chronaxy," presumably of the optic nerve. An increase in this chronaxy is found while lifting dumbbells, and it is not dependent upon the duration of the work. When doing static work the chronaxy increases only several minutes after the end of the work.—H. E. Burt (Ohio State).

3982. McNemar, Q. Practice and change of function in substitution ability. *J. gen. Psychol.*, 1936, 14, 462-464.—Contrary to expectations, the correlations between tests of sensorimotor, memory-motor, and speed ability, on the one hand, and performance on a letter-digit substitution test, on the other, do not change with practice.—H. Schlosberg (Brown).

3983. McNemar, Q. Practice and "general" motor ability. *J. gen. Psychol.*, 1936, 14, 464-466.—A study of 5 tests of motor skill, using 9 subjects, gives evidence of a small general factor which becomes more significant with practice.—H. Schlosberg (Brown).

3984. Paraita, M. Sobre la cronaxia de los músculos gastrocnemius y tibialis anticus. (The chronaxy of the gastrocnemius and tibialis anticus muscles.) *Arch. Neurobiol.*, 1935, 15, 397-410.—A comparison of chronaxy values of the two muscles obtained from normal and pathological cases. High chronaxy is in some cases a clinical sign. In one case of dorsal tabes the chronaxy for the gastrocnemius was found to be unusually high.—R. M. Bellows (Occupational Research Program).

3985. Pfaffmann, C., & Schlosberg, H. The conditioned knee jerk in psychotic and normal individuals. *J. Psychol.*, 1936, 1, 201-208.—Searching for factors underlying susceptibility to conditioning of the knee jerk, these writers attempted to condition the knee jerk to a bell in 20 schizophrenics and 19 manic-depressive patients in whom normal integrative mechanisms were disturbed. Manic-depressive patients, especially manics, exhibited most susceptibility, schizophrenics next most, and normals the least susceptibility. 7 of the 9 subjects exhibiting negative conditioning (backward kicks) were schizophrenics, and 4 were catatonics. Whereas a positive relation existed among normals between the amount of facilitation by the bell and susceptibility to conditioning, this relation was lower in schizophrenics and

absent in manic-depressive patients.—J. McV. Hunt (St. Elizabeth's Hospital).

3986. Razran, G. H. S. Conditioned responses: an experimental study and a theoretical analysis. *Arch. Psychol.*, N. Y., 1935, No. 191. Pp. 124.—The general problem was to make an extensive investigation of the chief characteristics of conditioning in adult human subjects, to compare these characteristics with those of similar conditioning in animals, and to study the role of central factors in human conditioning. Less important problems were group conditioning, conditioning facilitation, and distraction. The data and propositions put forth throughout the study on the conditioning processes of adult human subjects were quite adequate and conclusive. Those on the conditioning of animals and children were much less sufficient and definitive, and were badly in need of future experimentation. The speed of conditioning increases through the phyletic scale and in individual growth, but decreases in later development. In the phyletic scale the largest increase seems to have occurred somewhere between Protista and Arthropoda. In man the reverse in speed of conditioning appears to occur at the age of 3-5 years; there is a similar reversal in the relation between speeds of conditioning and intelligence, the correlation being positive in younger children and negative in older ones.—E. M. Achilles (Columbia).

3987. Roelofs, C. O. Geometrische Betrachtungen über die Augenbewegungen. (Geometrical considerations on eye movements.) *Arch. Augenheilk.*, 1934, 108, 631-673.—Using only the more simple formulae of plane and spherical trigonometry, the position of the axis in movement, displacement of the line of regard, and position of the axis of rotation when many muscles are working together are treated. The oblique superior is especially studied in vertical movements. The experiments contradict the statement of Cords that the principal elevators are the right in abduction and the oblique in adduction.—(Courtesy *Année psychol.*)

3988. Rossi, G. Ricerche sul laberinto vestibolare eseguite nell'Istituto di Fisiologia di Firenze. (Researches on the vestibular labyrinth carried out in the Institute of Physiology at Florence.) *Arch. ital. Anat. Embriol.*, 1934, 33, 38-66.—(*Biol. Abstr.* X. 5612).

3989. Schaefer, H. Untersuchungen über den Muskelaktionsstrom. (Investigations on the muscle action current.) *Pflüg. Arch. ges. Physiol.*, 1936, 237, 329-356.—The components of the action current of frog's sartorius and gastrocnemius muscle are described in detail and compared with the action current of nerve.—M. A. Rubin (Clark).

3990. Schochrin, W. A. Über die Beständigkeit des Altersverhältnisses zwischen der Muskelkraft der Strecker und Beuger. (The constancy of the relation between strength of extensors and flexors as related to age.) *Arbeitsphysiologie*, 1935, 8, 607-609.—The ratio of the strength of flexors as revealed by a dynamometer to that of extensors remains fairly constant from 20 to 60 years of age. Experiments

were conducted with each leg and with each hand.—H. E. Burt (Ohio State).

3991. Scott, T. C. Minor variations in maze patterns: I. The effect upon the difficulty of the maze. *J. Psychol.*, 1936, 1, 261-269.—In order to ascertain what effect minor variations in maze patterns would have upon the difficulty of the maze, 5 groups of about 50 college students were made to learn 5 ten-alley mazes of the Worden type. Evidence, not statistically reliable, indicated that long moves in the middle of a maze decreased difficulty over those with moves of uniform length, and that short moves increase difficulty, particularly if these short moves come in the last part of the maze.—J. McV. Hunt (St. Elizabeth's Hospital).

3992. Simonson, E., & Sirkina, G. Wirkungsgrad und Arbeitsmaximum. (Degree of efficiency and work maximum.) *Arbeitsphysiologie*, 1933, 7, 457-474.—(*Biol. Abstr.* X: 5708).

3993. Spielberg, P. Einfluss der Ermüdung auf den Gang. (Influence of fatigue on gait.) *Arbeitsphysiologie*, 1934, 7, 555-576.—(*Biol. Abstr.* X: 5709).

3994. Ufland, J. M. Einfluss des Lebensalters, Geschlechts, der Konstitution und des Berufs auf die Kraft verschiedener Muskelgruppen. II. Die Muskelkraft bei Vertretern verschiedener Konstitutionstypen. (Influence of age, sex, constitution and vocation upon the strength of different muscle groups. II. The muscular strength of representatives of different constitutional types.) *Arbeitsphysiologie*, 1933, 7, 232-237.—(*Biol. Abstr.* X: 5716).

3995. Van Riper, C., & Bryngelson, B. Speed and accuracy of clockwise and counter-clockwise movements. *J. Psychol.*, 1936, 1, 247-253.—Attempting to determine (1) whether there is any basic difference in a person's ability to use his hands in a clockwise or counter-clockwise direction, and (2) whether this differential ability is a function of the individual's handedness, the writers had 60 subjects, selected on the basis of handedness, (a) follow spirals, (b) draw as many circles as possible in squares, and (c) follow as many circles of asterisks as possible in given times with the instruction that accuracy counted. Scoring the records of all three tests in terms of amount done, the results demonstrated the superiority of counter-clockwise rotation for the right hands of both right and left-handed individuals. Left hands exhibited the opposite tendency.—J. McV. Hunt (St. Elizabeth's Hospital).

3996. Wachholder, K. Selbstgewähltes Bewegungstempo und seine Beziehung zum "Eigenrhythmus" und zur Ökonomie der Bewegung. (The self-chosen rate of movement and its relation to personal rhythm and to economy of movement.) *Arbeitsphysiologie*, 1933, 7, 422-429.—(*Biol. Abstr.* X: 5719).

3997. Wendt, G. R. An interpretation of inhibition of conditioned reflexes as competition between reaction systems. *Psychol. Rev.*, 1936, 43, 258-281.—New evidence is presented for the viewpoint that the inhibition of complex behavior; such as conditioned

reflexes, is one aspect of the process of competition between reaction systems; i.e., an activity is inhibited when some other reaction system takes its place. Evidence from the inhibition of vestibular nystagmus shows it to consist in the displacement by another eye-movement response system of the vestibular eye-movement response system. In the conditioned food-taking reaction experiment on monkeys, inhibition of delay, extinctive inhibition, and internal and external inhibition result when other response systems, as manipulative and locomotive acts, gain dominance over food taking. This view is contrasted with Pavlov's theory of inhibition as an independent process, and it is shown that Pavlov's laws of inhibition can be included under the more general laws of the competition of reaction systems. A discussion of the various products of competition between allied and antagonistic reaction systems is given.—A. G. Bills (Chicago).

[See also abstracts 3814, 3824, 3832, 3898, 3913, 3916, 3919, 3931, 3939, 3940, 3953, 4000, 4002, 4005, 4007, 4014, 4023, 4024, 4025, 4026, 4048, 4094, 4096, 4165, 4190, 4202, 4226, 4227, 4290, 4303, 4304, 4307.]

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3998. Abe, N. Galvanotropism of the catfish *Parasilurus asotus* (Linné). *Sci. Rep. Tohoku Univ.*, 1935, 9, 393-406.—(*Biol. Abstr.* X: 5573).

3999. Abramowitz, A. A. The double innervation of caudal melanophores in *Fundulus*. *Proc. nat. Acad. Sci., Wash.*, 1936, 22, 233-238.—Support for the view of double innervation of the melanophores of the killifish is found by studying (with the aid of a Leica camera and a micro-lbso attachment) pigment-nervous regeneration following transection of several radial nerves in the tails of several hundred fishes. The pigmentary reactions of innervated and denervated band melanophores under black- and white-adaptation "seem to be explainable best by regarding the concentrated phase of a melanophore to be dependent upon the activity of one type of nerve; and the dispersed phase, upon the activity of another type of nervous connection."—F. S. Keller (Colgate).

4000. Denisov, P. K., & Kupalov, P. S. Velichina uslovnykh reflektsov sobaki v osveshchennoi i zatemnennoi kamerakh. (Conditional reflexes of dogs in light and dark chambers.) *Arkh. biol. Nauk*, 1933, 33, 689-696.—(*Biol. Abstr.* X: 5631).

4001. Fields, P. E. Studies in concept formation. III. A note on the retention of visual figure discrimination. *J. comp. Psychol.*, 1936, 21, 131-136.—Nine rats were retested 31 weeks after the completion of the original tests on visual figure discrimination. The six rats which had been trained on Fields' multiple discrimination apparatus manifested better results than those which had been trained on a two-choice apparatus. There was a tendency for the discriminations learned last to be the first forgotten.—N. L. Munn (Peabody).

4002. Floresco, N. Réflexe naso-palpébral (gré-nouille). (The naso-palpebral reflex in the frog.) *Bul. Fac. Sti. Cernăuți*, 1933, 7, 115-122.—(*Biol. Abstr.* X: 5579).

4003. Frisch, K. v. Über den Gehörsinn der Fische. (The sense of hearing in fishes.) *Biol. Rev.*, 1936, 11, 210-247.—From a review of the sensitivity of various fish to sound, the author concludes that the labyrinth of fishes has the capacity to receive sound and to discriminate tones, even though it has no basilar membrane. Summary in English. Lengthy bibliography.—M. A. Rubin (Clark).

4004. Graves, E. A. The reliability of the Columbia obstruction apparatus. *J. comp. Psychol.*, 1936, 21, 137-143.—The author's results show the Columbia obstruction apparatus to have "sufficient reliability under the conditions of this experiment to be used in animal experimentation." Hunger motivation was used. The conditions differed from those of the Columbia investigators in a number of ways.—N. L. Munn (Peabody).

4005. Gray, J. Studies in animal locomotion II. The relationship between waves of muscular contraction and the propulsive mechanism of the eel. *J. exp. Biol.*, 1933, 10, 386-390.—(*Biol. Abstr.* X: 5674).

4006. Gulliksen, H. The relationship between degree of original learning and degree of transfer. *Psychometrika*, 1936, 1, 37-43.—An experiment was performed to determine the relationship between the accuracy of the original learning and the accuracy of transposition (reaction to the relative rather than to the absolute size of two stimuli). "The usual method of comparison of the average number of errors in the transposition test made by a group of rats trained to a criterion of 10 consecutive errorless trials with the average number of errors made by a group of rats trained to a criterion of 30 consecutive errorless trials reveals no clear difference between the groups. However, the degree of learning at the point when training ceased, plotted against errors made in transposition, brings out a clear relationship between degree of original learning and accuracy of transposition. Within the range of learning tested, the more accurate the original learning was, the more accurate was the transposition."—A. K. Kurtz (Psychometric Society).

4007. Herren, R. Y., Travis, L. E., & Lindsley, D. E. The effect of lesions in the central nervous system of the rat upon reflex time. *J. comp. Neurol.*, 1936, 63, 241-249.—Following lesions in various parts of the central nervous system of the rat, measurements of reflex latencies were made upon the crossed dorsiflexion reflex of the foot and the Achilles reflex. The latency of the crossed dorsiflexion reflex was unaffected by lesions in the cerebral cortex, the cerebellum, the corpus striatum, and spinal cord. Latency in the Achilles reflex of the contralateral side decreased following lesions in the cerebral cortex, but the degree of reduction of latency was not related to the mass destroyed. Within three months recovery

was complete. The latency of the Achilles reflex was disturbed in a variety of ways following lesions in the corpus callosum, corpus striatum, and spinal cord. No disturbance followed cerebellar lesions.—C. P. Stone (Stanford).

4008. Kirk, S. A. Extra-striate functions in the discrimination of complex visual patterns. *J. comp. Psychol.*, 1936, 21, 145-159.—To determine the relationship between the extent of unilateral cortical lesions and the degree of post-operative disturbance of visual pattern discrimination, white rats were trained, on a Lashley jumping apparatus, to respond positively to a white F on a black ground and to respond negatively to a mirror-image of the same F, also on a black ground. 26 rats completed all of the tests. Pre-operative training continued until the animals made fifty errorless trials (10 a day for five days). This criterion was reached in from 76 to 387 trials. A rest of 10 days was then given. Retention tests at the end of this period yielded 0-4 errors in 30 trials. One or two trephines were then made in only one hemisphere in each rat. Ten days later the discrimination was relearned in from 0 to 277 trials and with 0-120 errors. The loss of the discrimination was closely proportional to the extent of the lesion. It was "not mainly dependent upon the destruction in the area striata, or the posterior cortex." The author says that his results "may be interpreted as evidence for extra-striate functions in the discrimination of complex visual patterns." Bibliography.—N. L. Munn (Peabody).

4009. Kohts, N. Infant ape and human child (instincts, emotions, play, habits). Moscow: 1935. Pp. xvi + 596.—A sequel to the author's volume on chimpanzee intelligence published in 1923. A third volume is planned, on the "ability of the chimpanzee to distinguish form, size, quantity, and number, and his capability towards ascertaining likeness and dissimilarity, making analysis and synthesis." The two subjects were studied at the ages of 1 to 4 years of age. The book deals with the behavior of the infant chimpanzee, behavior of the human child, and analysis of behavior of man and ape. Physical characteristics and expressions, emotional expressions, instincts, play, cunning and deception, use of tools, imitation, memory and language are discussed. The book is published in Russian, with English summary. There are 145 plates.—R. Goldman (Clark).

4010. Larsell, O., McGrady, E., & Zimmermann, A. A. Morphological and functional development of the membranous labyrinth in the opossum. *J. comp. Neurol.*, 1935, 63, 95-118.—Vestibular reflexes first appear at the age of 43 days and are pronounced at 50 days. Their appearance coincides with the final differentiation of epithelial cells of the cristae and the cupula. The nerve endings and central portions of the vestibular nerve are present at a much earlier time. Auditory reflexes appeared at 50 days. High notes provoked the earliest responses and only gradually on succeeding days were responses to lower notes of the musical scale elicited. Histological examination of the organ of Corti shows that final

differentiation of this structure proceeds from the basal coil toward the helicotrema, and that function at the different levels of the cochlea begins when cells of the organ of Corti reach an adult-like stage of differentiation. The acoustic nerve endings develop well in advance of the hair cells.—C. P. Stone (Stanford).

4011. Lauwerys, J. A. Interpretation of animal behaviour. *Nature, Lond.*, 1935, 135, 231.—A reply to the view that preoccupation with theological explanations was necessarily somewhat unscientific and philosophical. "It is unwise to assume that vitalistic theories or teleological interpretations are less scientific and deterministic, or more metaphysical than are mechanical theories using efficient causation. After all, the facts alone can be considered objective and all modes of interpretation or of analysis of them are, in a sense, subjective."—R. Goldman (Clark).

4012. Lindberg, A. A. Materialy k izucheniiu vysshei nervnoi deiatelnosti obezian. (Higher nervous activity in monkeys and apes.) *Arkh. biol. Nauk*, 1933, 33, 697-722.—(*Biol. Abstr.* X: 5641).

4013. Locke, N. M. A preliminary study of a social drive in the white rat. *J. Psychol.*, 1936, 1, 255-260.—Defining a social drive as a tendency for an organism to overcome an obstruction in order to respond to another organism of the same species, the writer ran 12 male white rats, 11 weeks of age, after 7 weeks as cage mates, in the Columbia obstruction apparatus to determine whether there is evidence of social drive. 5 animals served as subjects, 4 as controls, and 3 as stimulus animals. These had been isolated for 16 hours, 4 hours, or 1½ hours. Other drives were held constant in the customary manner. No significant difference between the scores of the experimental animals and the controls appeared. Inasmuch as the behavior of the animals was exploratory before it was social, the suggestion is offered that a social drive is conditioned upon an exploratory drive.—J. McV. Hunt (St. Elizabeth's Hospital).

4014. Maiorov, F. P. Uslovnye sledovye refleksy u obezian *Rhesus-lapundra*. (Conditioned secondary reflexes in *Rhesus lapundra* monkeys.) *Arkh. biol. Nauk*, 1933, 33, 723-732.—(*Biol. Abstr.* X: 5643).

4015. Miller, N. E., & Miles, W. R. Alcohol and removal of reward. An analytical study of rodent maze behavior. *J. comp. Psychol.*, 1936, 21, 179-204.—Rats overlearned a maze and were injected with 10% ethyl alcohol, the dose being one part absolute alcohol to 1000 of body weight. Five minutes later a marked decrement in the speed of running and a large increment in the coefficient of variability of the time scores of hungry, rewarded animals appeared. There was an increase in entrances to goal-pointing blinds and a qualitative change in the distribution of errors among the blinds; the change seemed to be a regression to an earlier distribution of errors. Control injections failed to produce such results. Following a succession of non-rewarded trials there appeared a decrease in speed and an increase in errors. After 13½ minutes back in the cage, however, the effect of the non-rewarded trials disappeared. Following

repetition of the non-rewarded trials another 13½-minute interval was introduced, this time with an injection of alcohol five minutes before the end. The time was markedly increased. With saline solution administered as was the alcohol, recovery followed rest. Alcoholized rats gradually speeded up in succeeding non-rewarded trials, while normal animals gradually slowed down. Alcohol and removal of reward together produced a greater increase in time than the sum of the separate effects. Three different interpretations of the results are found to be possible and these suggest further problems. Bibliography.—N. L. Munn (Peabody).

4016. Miller, N. E., & Stevenson, S. S. Agitated behavior of rats during experimental extinction and a curve of spontaneous recovery. *J. comp. Psychol.*, 1936, 21, 205-231.—The rats were trained to run along a straight alley to the food box. After a stable level of performance had been reached, they were given non-reward runs during which time taken to traverse the alley was measured. Each rat was rated for agitated behavior on a scale from 0 to 3. After "extinction trials" the animals were returned to a cage. They were subsequently returned to the alley to rest for "spontaneous recovery" of running speed. Non-rewarded (extinction) trials increased time scores and agitated behavior. Recovery curves were negatively accelerated. Control tests indicated that "the curves for recovery . . . represent a disappearance of the effects of the non-rewarded trials rather than some more general tendency of the intervals to produce an increase in the speed of running." The authors suggest an explanation of spontaneous recovery which deduces this phenomenon from "the negative acceleration of the forgetting curve and the fact that the habits presumably set up during the non-reinforced training are newer than those acquired during the original, reinforced learning." Two hypotheses relating to the agitated behavior are suggested. Bibliography.—N. L. Munn (Peabody).

4017. Pastori, G. Ricerche sull'eccitabilità delle vorticelle. (Investigations on the excitability of *Vorticella*.) *Arch. Sci. biol., Napoli*, 1932, 17, 145-163.—(*Biol. Abstr.* X: 5583).

4018. Pattie, F. A. The gregarious behavior of normal chicks and chicks hatched in isolation. *J. comp. Psychol.*, 1936, 21, 161-178.—In order to discover whether there is an innate gregariousness in chicks, the author recorded the attempts of single chicks, which had been hatched and reared in isolation, to reach other chicks visible through a glass window. Time consumed in attempting to reach the chicks was compared with that used in trying to reach two white mice. Isolated and normal chicks were also compared in these reactions. Statistical evidence was found "for the existence of a rather weak innate gregarious tendency in chicks four days old which have been hatched and kept in isolation and given an opportunity to seek the company of other chicks or mice. This tendency is found to wane gradually; at the end of the testing period, when at

the age of ten days, the isolated chicks spent most of their time seeking mice in preference to chicks. The behavior of a number of chicks in the group does not conform to the general rule, which is established only statistically." Bibliography.—N. L. Munn (Peabody).

4019. Riley, G. M. Light regulation of sexual activity in the male sparrow (*Passer domesticus*). *Proc. Soc. exp. Biol.*, 1936, 34, 331-332.—Sparrows were exposed to 4½ additional hours of light daily (incandescent lamp), beginning in mid-November. Accelerated testicular development was observed in the experimental group as compared with controls. A second group was similarly treated in September. Only the juvenile birds in this group showed sexual changes as a result of the light. It is suggested that "in adult male sparrows an intrinsic sexual rhythm seems to be established which, through environmental factors, merely becomes synchronized with the seasons."—H. Peak (Randolph-Macon).

4020. Scheminzky, F. Zur Physiologie der Galvanonarkose bei Wassertieren. (The physiology of galvanonarcosis of water animals.) *Pflüg. Arch. ges. Physiol.*, 1936, 237, 273-284.—In various water animals a condition of paralysis (galvanonarcosis) is brought about by a descending galvanic current. This condition disappears almost immediately on breaking the current. Ascending current causes convulsions. These phenomena are explained on the basis of ana- and catelectrotonic effects.—M. A. Rubin (Clark).

4021. Scheminzky, F., Hochstädt, O., & Adler, P. Über das Wesen der Galvanonarkose beim Frosche. (The nature of galvanonarcosis in the frog.) *Pflüg. Arch. ges. Physiol.*, 1936, 237, 284-295.—The effect of ascending and descending galvanic currents on the central nervous system of the frog is studied by applying electrodes to the head and anal regions and recording the myogram and electromyogram of the hind leg. Descending current caused the leg musculature to relax (galvanonarcosis), no action current being found in the electromyogram. Ascending current caused strong muscular contraction with an accompanying action current. The action of galvanic stimulation on the central nervous system is compared to electrotonic excitability changes in peripheral nerve.—M. A. Rubin (Clark).

4022. Schiller, P. v. Intersensorielle Transposition bei Fischen. (Intersensory transposition in fishes.) *Z. vergl. Physiol.*, 1933, 19, 304-309.—(*Biol. Abstr.* X: 5613).

4023. Sizer, I. W. Stimulation of *Fundulus* by oxalic and malonic acids and breathing rhythm as functions of temperature. *J. gen. Physiol.*, 1936, 19, 693-715.—The chemical processes controlling stimulation of *Fundulus* (the mummichog) are studied by means of the temperature characteristics found for these processes. Temperature characteristics (μ) are given for stimulation by a variety of chemicals and for the breathing rhythm in salt and fresh water. The significance of these results is discussed.—M. A. Rubin (Clark).

4024. Skinner, B. F. The reinforcing effect of a differential stimulus. *J. gen. Psychol.*, 1936, 14, 263-278.—"A discrimination is set up in which a response to a lever is elicited practically only when a differentiating stimulus (L) is present. An occasional response in the absence of L is then arranged to produce the appearance of L periodically. This has the effect of reconditioning the response in the absence of L. The rate of change is examined through its effect upon the rate of elicitation observed under periodic reconditioning. The change is found to begin immediately. Some later acceleration is usually observed. A related experiment demonstrates that a differentiating stimulus such as a buzz or light may have a marked depressive effect upon the rate of elicitation during periodic reconditioning."—H. Schlosberg (Brown).

4025. Skinner, B. F. The effect on the amount of conditioning of an interval of time before reinforcement. *J. gen. Psychol.*, 1936, 14, 279-295.—By the insertion of various periods between the pressing of a lever and the presentation of food to his rats, Skinner measured the effectiveness of delayed reinforcement. Reinforcement after a delay of 2 or of 4 seconds was more effective than after delays of 6 or of 8 seconds. These results were determined from the extinction ratio. Another possible method for determining the effectiveness of delayed reinforcements was also described.—H. Schlosberg (Brown).

4026. Skinner, B. F. Conditioning and extinction and their relation to drive. *J. gen. Psychol.*, 1936, 14, 296-317.—Hunger was varied by feeding different amounts of food to rats which had been on a daily feeding schedule. During the following experimental period, when responses were periodically reinforced with food, the rate of responding was found to decrease linearly with the amount of food previously eaten. Additional animals were trained with a periodic reconditioning method and extinction curves obtained following the feeding of 0, 2, 4, and 6 grams of food. It was concluded that drive modifies the rate at which responses are elicited in the extinction situation, but does not affect the final number of responses that will be given. Other animals were trained by reinforcing every response with food. Extinction curves on these animals gave evidence of a similar relationship between drive and extinction although they showed many variations and did not reach a common level in one extinction period.—P. M. Fitts (Brown).

4027. Uchida, H. Color changes in the eye of a longhorned grasshopper, *Homorocoryphus lineosus*, in relation to light. *J. Fac. Sci. Tokyo Univ.*, 1934, 3, 517-525.—(*Biol. Abstr.* X: 5619).

4028. Wald, G. Pigments of the retina. I. The bull frog. *J. gen. Physiol.*, 1936, 19, 781-797.—The interrelations of visual purple, retinene, and vitamin A in the retina of the bull frog are studied by means of automatically recorded spectra. The distribution, properties, and concentrations of xanthophyll, vitamin A, and flavine in the pigmented tissues of the eye are described.—M. A. Rubin (Clark).

4029. Warden, C. J., Jenkins, T. N., & Warner, L. H. *Comparative psychology: a comprehensive treatise: vertebrates*. Vol. II. New York: Ronald Press, 1936. Pp. 560. \$4.50.—The authors present general biological information as well as naturalistic and experimental material on the receptive and reactive capacities of fish, amphibia, reptiles, birds, and mammals. The volume contains 80 illustrations and a bibliography of 2030 titles. There are also 20 pages of abbreviations of periodical sources.—W. S. Hunter (Clark).

4030. Wedell, C. H. The taste sensitivity of the white rat. I. Sensitivity to quinine sulphate. *J. comp. Psychol.*, 1936, 21, 233-244.—The white rat was found to possess sensitivity for quinine sulphate about equivalent to that of man. The animals were given a choice between tap water and solutions of quinine sulphate placed side by side in their cages in similar containers which were shifted in right-left position on alternate days. The order of presentation of the solutions, from weak to strong or from strong to weak, varied for different groups. Measurement of thresholds was in terms of the amount of quinine sulphate solution consumed. Threshold concentrations in per cent by weight varied from .000375 to .001563. Bibliography.—N. L. Munn (Peabody).

4031. Whitaker, W. L. Effect of light on reproductive cycle of *Peromyscus leucopus noveboracensis*. *Proc. Soc. exp. Biol.*, N. Y., 1936, 34, 329-330.—An experimental group (A) consisting of 35 animals was given increased illumination from a G. E. sunlamp. A control group (B) including 28 animals was treated with an electric radiant heater to balance the heating effect of the lamp. Group A proved to be 6 to 8 weeks ahead of B in advancing into sexual season as judged by the condition of testes or vagina.—H. Peak (Randolph-Macon).

4032. Yerkes, R. M., & Elder, J. H. The sexual and reproductive cycles of chimpanzee. *Proc. nat. Acad. Sci.*, Wash., 1936, 22, 276-283.—A preliminary report of the sexual and reproductive processes in the chimpanzee, based upon a study of "fourteen sexually mature females over periods varying from months to several years. In a few instances the history of an individual has been followed from childhood to reproductive maturity." From their "records of some two hundred complete sexual cycles observed day by day; descriptions of about a score of complete reproductive cycles, and of about half as many incomplete or interrupted cycles; and, finally, of data of behavior and reproductive outcome for somewhat more than five hundred controlled matings," the authors present a summary account of the sexual cycle (diagrammatically supplemented to indicate individual and group norms for the various phases), and a partial description of the reproductive cycle—dealing particularly with female receptivity, mating behavior, gestational and parturitional processes, as well as acceptance and care of the infant by the mother.—F. S. Keller (Colgate).

[See also abstracts 3887, 3922, 3924, 3930, 3933, 3936, 3937, 3940, 3951, 3954, 3957, 3972.]

EVOLUTION AND HEREDITY

4033. Bayer, W. v. Zur Genealogie psychopathischer Schwindler und Lügner. (The genealogy of psychopathic swindlers and liars.) *Samml. psychiat. neurol. Einzeldarst.*, 1935, 7. Pp. 234.—Starting from the premise that character abnormalities have their roots in congenital and hereditary anomalies and not in environment, Bayer applied Rüdin's method for the investigation of heredity in the psychoses to 121 psychopathic swindlers and liars. The book contains more than 100 pages of discussion.—M. E. Morse (Baltimore).

4034. Brugger, C. Untersuchungen an Kindern, Neffen, Nichten und Enkeln von chronischen Trinkern. (Studies of the children, nephews, nieces and grandchildren of chronic drinkers.) *Z. ges. Neurol. Psychiat.*, 1936, 154, 223-241.—The wives, children, nieces, nephews and grandchildren of 225 institutionalized chronic drinkers were studied. To avoid complications of alcoholic sterility, the descendants of female drinkers were excluded. Frequencies of psychiatric disorders are given. More of the wives of the alcoholics were feeble-minded, schizophrenic and psychopathic than chance would lead one to expect. Nephews are mentally abnormal as often as the children and more often than the grandchildren. It was impossible for the writer to determine any injurious effect of chronic alcoholism upon the germ cells. Short bibliography.—C. W. Fox (Rochester).

4035. Delgado, H. Herencia de los desordenes mentales. (The inheritance of mental disorders.) *An. Fac. Cienc. med.*, Lima, 1935, 18, 1-48.—Since the age of Hippocrates the factor of biological heredity has been stressed in the etiology of mental disease. The scientific study of heredity and genetics, however, appeared with the work of Mendel. The author lists certain mental syndromes which appear to be inherited as dominant or recessive characters. A discussion of the mechanics of heredity is given.—J. W. Nagge (Kansas State of Emporia).

4036. Dubitscher, F. Der moralische Schwachsinn unter besonderer Berücksichtigung des Gesetzes zur Verhütung erbkranken Nachwuchses. (Moral feeble-mindedness, with special reference to the law for preventing offspring with hereditary disease.) *Z. ges. Neurol. Psychiat.*, 1936, 154, 422-457.—The question of moral feeble-mindedness has assumed importance in Germany in the light of the sterilization law of July, 1933. The author surveys the development and present understanding of the concept. It is to be considered a sub-form of asocial behavior. That heredity is an important determiner seems certain, although no exact figures can now be given. With the exception of cases of purely exogenous disorder, psychopaths and isolated ethical disorders, all the cases fall under the law for preventing hereditary disease. Bibliography of 152 references.—C. W. Fox (Rochester).

4037. Fantham, H. B., & Porter, A. Remarks on a "family" showing shortness, illegitimacy and simple-mindedness. *Eugen. News*, 1936, 21, 29-32.—Heights are reported for 17 members, covering

three generations of a family. There is a preponderance of women, all short, who prefer men of approximately their own heights. 12 adults, members of the family, ranged in height from 3'11" to 4'4". Children are short for their ages. Twins occur three times in the group. In the first and second filial generations are 13 illegitimate children by many different fathers. The family is characterized as strong and healthy, pleasing in manner and physically attractive, but with "mental simpleness" (not actually feeble-minded) and feeble sex inhibitions.—*M. V. Loudon* (Pittsburgh).

4038. **Huntington, E.** *Tomorrow's children.* New York: Wiley, 1935. Pp. x + 139. \$1.25.—*R. R. Willoughby* (Clark).

4039. **Kaiser, L.** *Inheritance of migraine headaches.* *Eugen. News*, 1936, 21, 36.—A woman subject to migraine headaches married a man who was not so afflicted. All living descendants suffered from the headaches except the children of the fourth generation, who "are too young to determine the presence or absence of the condition."—*M. V. Loudon* (Pittsburgh).

4040. **Popenoe, P.** *The fertility of divorcees.* *J. Hered.*, 1936, 27, 166-168.—An average of 1.03 children was born to 500 divorcees, half of whom had been married six or more years. An average of 1.26 children was born to 272 marriages, averaging twelve years in duration, and all exceeding four years. Shortage of children, therefore, cannot be attributed to short duration of marriage. Popenoe holds that this infertility of people who on the whole are unsuited to marriage and family-mindedness is eugenically advantageous. Remarriage selects from one-third to one-half of these divorcees, those on the whole who are eugenically superior in the group. Male divorcees remarrying fathered .57 children in second marriages as against 1.33 children in first marriages; females produced .71 children by second husbands as against 1.65 children by first husbands. Total families for the remarried divorcees averaged 1.90 children for the man with two wives and 2.36 children for the woman with two husbands. These figures are contrasted with the figure of 2.39 children, the average completed fraternity for native whites in California, where the study was made.—*G. C. Schwesinger* (American Museum of Natural History).

4041. **Schulz, B.** *Methodik der medizinischen Erbforschung unter besondere Berücksichtigung der Psychiatrie.* (Methods of medical heredity studies, with special reference to psychiatry.) Leipzig: Thieme, 1936. Pp. 189. RM. 10.50.—*R. R. Willoughby* (Clark).

4042. **Sievers, E.** *Bericht aus dem Leben eines erbgleichen Zwillingspaares mit einigen Bemerkenswerten psychischen Diskordanzen.* (Report from the life of a pair of identical twins with some remarkable psychic differences.) Berlin: De Gruyter, 1935. Pp. 40.—*R. R. Willoughby* (Clark).

4043. **Vinsonhaler, F., & Cosgrove, K. W.** *Hereditary cataract of the senile and presenile types.* *Arch.*

Ophthalm., Chicago, 1936, 15, 222-224.—The authors give a genealogical chart showing the incidence of cataract in six generations, and compare the findings with Nettleship's laws of inheritance of cataract, which are well exemplified in this family.—*M. R. Stoll* (Massachusetts Eye and Ear Infirmary).

[See also abstracts 4092, 4095.]

SPECIAL MENTAL CONDITIONS

4044. **Adler, A.** *On the interpretation of dreams.* *Int. J. indiv. Psychol.*, 1936, 2, 3-16.—By expressing a life problem metaphorically, the dream impels the individual toward his goal (often an unsocial goal) with increased emotional power. For illustration, the writer interprets dreams of falling, flying, paralysis, examinations, and other common dreams. The dreamer, self-deceived, does not recognize the purpose of his own metaphor. When he does, dreams have no further danger for him. The more courageously and realistically one meets the problems of life, the less one dreams, but absence of dreams may also be due to lack of imagination.—*M. F. Martin* (West Springfield, Mass.).

4045. **Alexander, F.** *The sociological and biological orientation of psychoanalysis.* *Ment. Hyg.*, N. Y., 1936, 20, 232-248.—The latest progress in the field of psychoanalysis is reviewed. The biological and sociological orientations are briefly formulated. The latest stage in psychoanalysis lays much stress upon early phases of personality development. The earlier the manifestations can be studied the easier it will be to isolate the general dynamic trends that are looked upon as inherited.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

4046. **Bragman, L. J.** *The case of Dante Gabriel Rossetti. A psychological study of a chloral addict.* *Amer. J. Psychiat.*, 1936, 92, 1111-1122.—*R. Goldman* (Clark).

4047. **Carington, W.** *Word-association tests of trance personalities.* *Nature, Lond.*, 1935, 135, 657-658.—A negative correlation is found between reaction time to certain words given by the medium in normal and trance states. It is deduced from this that "controls" which speak through the mediums are secondary personalities formed around nuclei of repressed material.—*R. Goldman* (Clark).

4048. **Fleming, R., & Goldman, N.** *Experimental studies in alcoholism: III. The effect of alcohol on complex reaction time. Preliminary survey.* *J. gen. Psychol.*, 1936, 14, 392-411.—Stimuli for the reactions consisted of pairs of digits presented for addition. The digits were exposed on a drum and the responses timed on an Ewald chronoscope, which was actuated by a thyatron relay. 12 sets of 50 reactions each were timed during a period of 3 hours for each of 21 subjects. The next day the procedure was repeated, but 17 of the subjects were given a small amount of alcohol (.6 - 1.0 c.c. per kg. of body weight) after the first test period, and the blood concentration of the alcohol determined after each set of reaction times. The remaining 4 subjects served as controls. The

variations in reaction time of the control subjects were as great as those of the experimental group, so it was not possible to determine the effects of the alcohol used. The results are given in detail. Further work is suggested.—*H. Schlossberg* (Brown).

4049. Freud, S. Inhibitions, symptoms, and anxieties. (Trans. by H. A. Bunker.) *Psychoanal. Quart.*, 1936, 5, 1-28.—Chapters 3 to 6 of *Hemmung, Symptom und Angst*, published in German, 1925.—*M. H. Erickson* (Eloise Hospital).

4050. Horney, K. The problem of the negative therapeutic reaction. *Psychoanal. Quart.*, 1936, 1, 29-44.—Impairment of a patient's condition during analysis, or negative therapeutic reaction, is based on anxiety with which neither patient nor analyst is able to deal and is a barrier to therapeutic progress. Such anxiety may be open or disguised, and arises from tension between ego and super-ego, resulting in a sense of guilt and a punishment need. The reaction arises from interpretations serving to state clearly or to solve partially a problem. Five effects of good interpretations on persons showing negative reactions are: (1) disparagement of the analyst, with disguised rage or refusal to cooperate; (2) a feeling of humiliation and sense of being imperfect; (3) a sense of relief followed by realization that further solutions mean recovery and a desire to terminate the analysis because of fear of success; (4) the regarding of the interpretation as an accusation, with defensiveness and counter-attack; (5) the development of a feeling of being rejected by the analyst. All of these reactions lead to hostility and a desire to defeat the purposes of the analytic situation, and they signify a dread of progress and a preference for illness. The management of this negative reaction lies in interpreting material related only to the analyst and the avoidance of any constructions based upon the past.—*M. H. Erickson* (Eloise Hospital).

4051. Husband, R. W. Sex differences in dream contents. *J. abnorm. soc. Psychol.*, 1936, 30, 513-521.—Sex differences in dream contents were studied in 25 men and 25 women by an interview method. Women's dreams are much more vivid and emotional and contain more elements of fear. Women tend to transfer their worries, love and otherwise, into dreams much more than do men. Women dream about their "boy friends," while men do not so often dream about the girls they care for. Dreams of married people are fewer and involve less sex content than those of single persons.—*C. H. Johnson* (Boston Psychopathic Hospital).

4052. Kelchner, G. D. Dreams in old Norse literature and their affinities to folk-lore. London: Cambridge Univ. Press, 1935. Pp. 154. 10/6.—Numerous dreams are recorded and analyzed, and in an appendix the texts and their translations are given in full. Their historical background is briefly indicated. It is shown how Christian influences find their way into the dream material, how adversity dreams preponderate, and what is the character of the symbolism present in the dreams.—*F. C. Bartlett* (Cambridge, England).

4053. Krausse, H. Die moderne Methodik der Schlafteiefenmessung. Eine experimentelle Prüfung. (The modern methods of measuring the depth of sleep. An experimental test.) Rudolstadt: Kolditz, 1936. Pp. 27.—*R. R. Willoughby* (Clark).

4054. Lucena, J. Os fumadores de maconha em Pernambuco. (Hemp smokers in Pernambuco.) *Arch. Assist. Psicopat. Pernambuco*, 1934, 4, 53-96.—In dealing with observations on *Cannabis sativa* the author treats the general question of intoxication produced by analogous products (Indian hemp, hashish, etc.). The general modifications brought about in the organism seem to consist principally of hypotonicity in the parasympathetic system. Attention is diminished, but memory, judgment, imagination, and manual ability are not affected.—(Courtesy *Année psychol.*)

4055. Marcus, H., & Sahlgren, E. Untersuchungen über die Einwirkung der hypnotischen Suggestion auf die Funktionen des vegetativen Systemes. (Investigations concerning the influence of hypnotic suggestion on the functions of the vegetative system.) *Acta Psychiat., Kbh.*, 1936, 11, 119-126.—A 36-year-old psychopathic woman served as subject. By means of hypnotic suggestion, it was possible to produce allergic skin reactions and local dermatographic reactions (both positive and negative), influence peristaltic action, and produce numerous other phenomena, including a regulation of the menstrual flow.—*H. A. Kohn* (Mooseheart Laboratory for Child Research).

4056. Poppi, U. Über die Bulbocapnin-Pseudocatatonie. (Bulbocapnine pseudocatatonie.) *Z. ges. Neurol. Psychiat.*, 1936, 154, 458-461.—Bulbocapnine acts in three ways to induce the familiar syndrome associated with it. Its effects are mental (stupor, perhaps negativism and inflexibility), nervous (vegetative disorders, convulsions), and muscular (tonic contraction of striped muscles, so-called catalepsy). Thus, according to the writer, bulbocapnine produces pseudocatatonie.—*C. W. Fox* (Rochester).

4057. Proudfit, I. The big round world. *Psychoanal. Rev.*, 1936, 23, 121-148.—This is a study of the mental make-up of Robert Louis Stevenson. He was found to have been an oral type from the time he was 7½ months old. Anal and phallic activities developed later. When he was 4 phallic symbolism appeared in the form of playing soldier. There is a great deal of symbolism of the color brown in Stevenson's make-up, which is usually associated with anal erotism, but in Stevenson's case it seems to be derived from the infant's observation of the brown skin of the mother's breast. He rejected his father, but apparently did not have an extremely strong mother attachment. His sexual outlet was in keeping with the color brown and only the dark-skinned gypsy type of woman appealed to him. His interest in traveling and moving about is associated with the breast attachment, in which the world is a breast symbol.—*L. S. Selling* (Recorder's Court, Detroit).

4058. Walder, R. The principle of multiple function: observations on over-determination. *Psychoanal. Quart.*, 1936, 5, 45-62.—A discussion is given of

the functioning of the ego and the agencies, id, reality, and super-ego, which it faces in its attempted solution of problems. In addition to attempted solutions the ego functions by assigning to itself various groups of problems and passively receiving the assignment of other groups of problems by the agencies it faces. By virtue of the nature of the problems dealt with the ego may be considered as directed by a principle of multiple functioning, since an attempt at the solution of a single problem would not be possible which did not to some degree represent an attempted solution of other problems. Since the various groups of problems are often at variance with one another, e.g., instinct gratification vs. instinct control, id, ego and super-ego needs are likewise at variance, and problem solution is consequently inconsistent in three directions and constitutes compromises between various solutions. Thus, problem solutions acquire multiple meanings which correspond to the multiple functions. This principle of multiple function serves to explain pansexualism, the importance of sexuality for character development, and specific reactions to love and work; and to throw light on the problems of neurosis, character, clinical manifestations, psychoanalytical characterology, the element of form in psychic life, social psychology, and dream life.—*M. H. Erickson* (Eloise Hospital).

4059. Welch, L. The space and time of induced hypnotic dreams. *J. Psychol.*, 1936, 1, 171-178.—With hypnotically induced dreams of scenes familiar to the subjects, this writer found: (1) that without a suggested form (e.g. a walk between specified points) an induced dream may continue indefinitely. When, however, forms are suggested: (2) dreams with the instruction to raise a hand when finished last no longer than 2 minutes, while (3) those in which the subject was told to call out the scenes as he passed them lasted longer. (4) Duration of the dream also depends upon depth of trance. No mathematical measurements of normal time and space compared with dream time and space were possible due to extreme variability. The sequence of the dreams alone was constant, being equivalent to the observed course of events.—*J. McV. Hunt* (St. Elizabeth's Hospital).

4060. Wible, C. L., & Jenness, A. Electrocardiograms during sleep and hypnosis. *J. Psychol.*, 1936, 1, 235-245.—Analysis of electrocardiograms from 8 subjects during periods of hypnosis, of sleep, and of waking rest before and after each period of hypnosis as controls, showed, so far as cardiac action is concerned, that hypnosis resembled waking rest more than it resembled sleep. Heart-rate and 3 intervals of the heart-cycle as given in the electrocardiograms were considered, namely, the interval from the beginning of the *P*-wave to the beginning of the *Q*-wave, (*P-Q* interval), the interval from the beginning of the *Q*-wave to the end of the *T*-wave (*Q-T* interval), and the interval from the end of the *T*-wave to the beginning of the next *P*-wave (*T-P* interval). Heart-rate tended to be lowered by sleep, but not by hypnosis. Average times of *P-Q* were decreased and

of *Q-T* increased during sleep, but not during hypnosis. The *P-Q* interval tended to vary inversely with cardiac rate during waking rest and during hypnosis, but not during sleep. These writers suggest that previous reports of cardiac action in hypnosis similar to that in sleep are based upon observations of sleep which was mistaken for hypnosis.—*J. McV. Hunt* (St. Elizabeth's Hospital).

[See also abstracts 3876, 3918, 3974, 4034, 4076 4105, 4145, 4158, 4162, 4170.]

NERVOUS AND MENTAL DISORDERS

4061. Barry, H. Orphanhood as a factor in psychoses. *J. abnorm. soc. Psychol.*, 1936, 30, 431-438.—A study of kings has at least five advantages in attacking the present problem: (1) There is more accurate information regarding individuals and their families. (2) Economic stress is not a factor. (3) Repression is minimized, as kings might be expected to have fewer unsatisfied wishes than the average individual. (4) The pressure of the complexity of modern civilization can be eliminated by studying a group of persons who lived anywhere from fifty to two thousand years ago. (5) Since kings are usually selected on a basis of primogeniture, they should form a group with relatively fewer orphans. 30 kings with psychotic tendencies were listed, and 100 monarchs selected at random were used as controls. Over twice as many insane as control rulers had lost their fathers early in life. Several rulers studied who had lost their fathers before the age of ten were very superior; a number were weak or unstable; those who might be considered "ordinary" or "average" hardly seem to be in the majority.—*C. H. Johnson* (Boston Psychopathic Hospital).

4062. Berze, J. Meynert und die Schizophrenie. (Meynert and schizophrenia.) *Z. ges. Neurol. Psychiat.*, 1936, 154, 265-274.—A pupil of Meynert discusses his teacher's contributions to the theory of schizophrenia in the light of present-day knowledge of the field.—*C. W. Fox* (Rochester).

4063. Brüel, O. Hysteri og nervesvækkelse. (Hysteria and nervous disease.) **Konstitutionstype og sindslidelse.** (Constitutional type and mental disease.) Copenhagen: Levin & Munksgaard, 1936. Pp. 7; 9.—Pamphlets by a well-known neurologist and psychiatrist for the general medical practitioner.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

4064. Brüel, O. Genesis of schizophrenia. *Character & Pers.*, 1936, 4, 185-194.—Psychotherapists are less and less inclined to take psychological processes at their face value, because frequently they find that the manifestation is not merely different from the underlying process but actually an expression of an entirely different process. This condition is illustrated by the schizophrenic patient. Contrary to the assumption that the schizophrenic is lacking in feeling, it is more in accord with general clinical data that he possesses a great capacity for affective experience. He does not express his emotionality because he has no normal outlet. Evidence of the fact that

there is emotionality is the explosive outbursts observed at times, due to inhibitions. Such a patient cuts off all relations to the outer world, which is the price he pays for the desired emotional immunity.—*M. O. Wilson* (Oklahoma).

4065. Cross, W. L. [Ed.] *Twenty-five years after: sidelights on the mental hygiene movement and its founder*. New York: Doubleday, Doran, 1935.—This book, published in a limited edition which is not for sale, consists of over 200 tributes gathered together by the late William H. Welch in honor of the twenty-fifth anniversary of the National Committee for Mental Hygiene and in honor of the founder of the mental hygiene movement, Clifford W. Beers.—*R. R. Willoughby* (Clark).

4066. Dreikurs, R. *Certain factors effective in psychotherapy*. *Int. J. indiv. Psychol.*, 1936, 2, 39-54.—Success of therapy can come only through the patient's recognition of his own life-style. Tricks (such as surprise, irony, and anti-suggestion) often help, but an offended patient may devalue an untactful therapist's work by a relapse. Authority should be avoided during treatment. Recognition of one's own strength is the foundation for a cure. Collective therapy (joint discussions with several patients) eliminates the personal battle with the therapist.—*M. F. Martin* (West Springfield, Mass.).

4067. East, W. N. *Alcoholism and crime in relation to manic-depressive disorder*. *Lancet*, 1936, 230, 161-163.—The number of convictions for drunkenness in England during the year 1933 was 39,751. Only a small proportion of the group were manic-depressive subjects. Manic-depressive disorder gives rise to criminal conduct apart from alcoholism. Crimes of violence are much more frequent in depressed than in exalted states. When crimes are associated with this mental disorder the intervals of normal mental health may be free from moral degradation. The dipsomania associated with the manic-depressive disorder is an outward manifestation of psychological and physiological causes independent of habit formation.—*D. J. Ingle* (Mayo Foundation).

4068. Ellermann, M. *Geni og sindssyge*. (Genius and mental disease.) Copenhagen: Hirschprung, 1936. Pp. 79.—The author tries to elucidate the bearing which early schizophrenia has had in the development of various geniuses. Special attention is paid to the two Swedish painters Josephson and Hill, while Van Gogh, the dramatist August Strindberg, and others are also considered.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

4069. English, O. S. *On the necessity of applying psychotherapy exclusively*. *Med. Rec.*, N. Y., 1936, 143, 384-386.—A discussion of psychotherapy is given emphasizing the necessity for the therapist to have an absolute conviction of the validity of the psychotherapy and the need to avoid using in addition any other forms of therapy, since such additional effort implies an inadequacy of the psychotherapy and thus prevents the patient from benefiting fully from it.—*M. H. Erickson* (Eloise Hospital).

4070. Erickson, M. H. *Opportunities for psychological research in mental hospitals*. *Med. Rec.*, N. Y., 1936, 143, 389-392.—The increasing psychological trends in modern clinical psychiatry as a result of the development of the psychobiological formulations of Meyer and the psychodynamic concepts are discussed. Present trends in psychiatric research show an increasing preference for psychological studies, while psychological research is marked by a growing interest in the more clinical aspects of psychology, both of which are factors favoring psychological research in mental hospitals. A measure contributing greatly to such research would be the establishment of affiliations between mental hospitals and psychology departments which would be conducive to active instruction and original investigative work. The utilization of "guest" or "volunteer" research workers is emphasized. Particular problems discussed offering definite opportunities for psychological research in mental hospitals are: (1) the analysis of the intercorrelations of environmental, anamnestic, somatic, clinical, and psychological data; (2) the definition of psychiatric concepts; (3) the objective evaluation and classification of symptoms; and (4) the correlation of known psychological laws and concepts with psychiatric concepts.—*M. H. Erickson* (Eloise Hospital).

4071. Frazier, C. H. *Tumor involving the frontal lobe alone: a symptomatic survey of one hundred and five verified cases*. *Arch. Neurol. Psychiat.*, Chicago, 1936, 35, 525-571.—The clinical symptoms of tumors involving the frontal lobe are analyzed from the standpoint of diagnosis. The most frequent mental changes found were impairment of memory (39%), intellectual ability (32%), and attention and concentration (27%). Personality change was noted in 23%, and euphoria in 6% of the patients.—*D. G. Marquis* (Oxford, England).

4072. Fröderström, H., Tamm, A., & Odencrants, G. *Diskussion över frågor rörande undervisning och utbildning i psykoterapi*. (Discussion of problems concerning the teaching of and training in psychotherapy.) *Svenska Läkartidn.*, 1936, 33, 546-554.—In the proceedings of the 1935 annual meeting of the section of psychiatry and neurology of the Swedish Medical Society, the proper training for psychotherapy was discussed, as regards both psychoanalysis and other methods. A committee was appointed by the psychiatry and neurology section to offer recommendations.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

4073. Gantt, W. H. *An experimental approach to psychiatry*. *Amer. J. Psychiat.*, 1936, 92, 1007-1021.—The article contains a brief introduction to the methodology of the conditioned reflex doctrine, a discussion of experimental "neuroses" in dogs, "Pavlov's basis for a division into types, the analysis and contrast with the Freudian and Meyerian explanations, and finally a word about the relativity of psychobiological facts."—*R. Goldman* (Clark).

4074. Groves, E. R., & Blanchard, P. *Readings in mental hygiene*. New York: Holt, 1936. Pp. xii

+ 596. \$2.75.—A collection of source material to accompany the authors' *Introduction to Mental Hygiene*, the chapter divisions of which are followed. The number of selections for each chapter is as follows: origin and development of mental hygiene, 7; psychiatric and psychological background, 6; problem of mental disease, 4; delinquency, 5; mental hygiene and childhood, 6; adolescence, 5; marriage, 7; mental hygiene and the schools, 6; college and university, 6; business and industry, 7; recreation and mental adjustments, 5; religion, 6; literature, 2; social work, 5; public opinion, 7; larger aspects of mental hygiene, 8. There is an index.—R. R. Willoughby (Clark).

4075. Gruhle, H. W. *Über den Wahn bei Epilepsie.* (Delusion in epilepsy.) *Z. ges. Neurol. Psychiat.*, 1936, 154, 395-399.—This study is based on 92 severe cases of epilepsy, of which no more than 8.8% showed any external etiology. In some of these severe cases delusions of religion, persecution, etc., were noted during exceptional states. The author suspects that endogenous toxic conditions may be responsible. Fixed delusional systems were found in 8.7% of 92 patients. No relation between the content of the delusion and the general epileptic change in character could be made out.—C. W. Fox (Rochester).

4076. Guttman, E., & MacLay, W. S. *Mescaline and depersonalization: therapeutic experiments.* *J. Neurol. Psychopath.*, 1936, 16, 193-212.—The symptoms of depersonalization, in which the patient feels that he is no longer himself, or that his surroundings are unreal, are duplicated by mescaline intoxication. Mild doses of mescaline administered to patients with depersonalization were found either to increase the symptoms or to improve the depersonalization aspect of the symptoms. 11 case reports are presented.—D. G. Marquis (Oxford, England).

4077. Hallay, L. *Massage of the brain in schizophrenia.* *Med. Rec., N. Y.*, 1936, 143, 382-383.—The author summarizes his article as follows: "An indirect massage of the brain is possible: (1) by rhythmical pressure (compressure of the internal jugular vein); (2) by gymnastics, especially breathing gymnastics; (3) by hard labor; (4) by excitement; (5) by resistance exercises in stuporous catatonics after paralyzing the limbs by scopolamine. Other possibilities may be considered. The brain massage may favorably influence the progress of the schizophrenic patient."—M. H. Erickson (Eloise Hospital).

4078. Henderson, D. K., & Gillespie, R. D. *A textbook of psychiatry.* London: Humphrey Milford, 1936. Pp. xii + 606. 18/—A fourth edition of a well-known textbook, revised and brought up to date.—F. C. Bartlett (Cambridge, England).

4079. Hopewell-Ash, E. L. *Melancholia in everyday practice.* London: Bale & Danielsson, 1934. Pp. 136. 7/6.—Symptoms of various types and phases of melancholia are described and briefly illustrated in case histories. Treatment, both general and specific, is discussed, and there is a chapter on etiology. The book is mainly addressed to the general practitioner of medicine.—F. C. Bartlett (Cambridge, England).

4080. Horst, L. v. d. *Die Bedeutung des Tierexperimentes für das Verstehen der klinischen Katatonie.* (The significance of animal experiments for the understanding of clinical catatonia.) *Z. ges. Neurol. Psychiat.*, 1936, 154, 345-350.—No proof of essential similarity between human catatonia and the "experimental catatonia" induced in animals through bulbocapnine can be provided; yet the comparative studies indicate many agreements between the two. An exclusively anthropomorphic view may be misleading, for it must be remembered that the human being acts in accordance with his possibilities, the infra-human with his. In the human catatonic syndrome, muscular symptoms may be veiled by purely mental symptoms, while in the animal the situation is quite different. The comparative studies are valuable, even though they are not as far-reaching as we might wish.—C. W. Fox (Rochester).

4081. Kehl, R. *As nevroses dos "forcados da castidade."* (The neuroses of enforced chastity.) *Arch. brasil. Hyg. ment.*, 1934, 7, 104-110.—Sexual tabus of various religions are responsible for the mysticism which appears primarily in chaste individuals. Sexual abstinence causes the nervous state with obsessions and even hallucinations. The mysticism provides a protective sublimation.—(Courtesy *Année psychol.*)

4082. Keschner, M., Bender, M. B., & Strauss, I. *Mental symptoms in cases of tumor of the temporal lobe.* *Arch. Neurol. Psychiat., Chicago*, 1936, 35, 572-596.—In a series of 110 verified cases of temporal lobe tumor, mental symptoms were observed in 103 patients, and were the earliest symptoms in 38 patients. Except for the greater incidence of hallucinatory phenomena in cases of temporal lobe tumor, there was no significant difference in frequency and nature between the mental symptoms of tumor of the temporal lobe and those of tumor of the frontal lobe.—D. G. Marquis (Oxford, England).

4083. Landis, C., & Wunderlich, E. P. *Religious attitudes of psychopathic patients.* *J. abnorm. soc. Psychol.*, 1936, 30, 508-512.—The different psychotic religious groups closely resemble normal groups in their attitudes toward the church. The Catholics are most in favor of the church, the Protestants next, the Jews less favorable, and the non-believers most antagonistic. On the basis of clinical diagnosis, the dementia praecox patients are more favorable to the church and Sunday observance than either the manic-depressive or psychoneurotic. In regard to evolution, all but the manic-depressive men believe in it. All the men and women favor birth control. All show belief in God except the dementia praecox women, who are neutral. Prepsychotic religious attitudes probably are not markedly altered during the psychotic episode of the average patient.—C. H. Johnson (Boston Psychopathic Hospital).

4084. Lennox, W. G. *The physiological pathogenesis of epilepsy.* *Brain*, 1936, 59, 113-121.—Review of the recent experimental work shows no evidence that seizures are related to a deficiency in

the supply of blood or of oxygen to the brain of epileptics. The interpretation of the changes in the electrical activity of the brain during seizures is discussed.—D. G. Marquis (Oxford, England).

4085. Leonhard, K. Zur Frage der "episodischen Dämmerzustände." (On the question of "episodic twilight states.") *Z. ges. Neurol. Psychiat.*, 1936, 154, 242-257.—The author's earlier account of episodic twilight states (*M. Schr. Psychiat.*, 1931, 81, 226) is here supplemented by reports of four new cases. He discusses possibilities of differential diagnosis and considers in detail the relations of the disorders to epilepsy and feeble-mindedness. Aside from their points of contact with epilepsy, these must be considered as constituting an unique form of disease.—C. W. Fox (Rochester).

4086. Levin, M. Paroxysmal hypertonia induced by affect. A symptom in man and in lower animals. *Arch. Neurol. Psychiat.*, Chicago, 1934, 32, 1286-1300.—A discussion of affective hypertonia (caused by a strong affective shock) which is less known than hypotonia or cataplexy.—R. Goldman (Clark).

4087. Levin, M. "Crowding" of excitation as the immediate cause of some epileptic fits: a consideration of the pathogenesis of epileptic fits precipitated by anger and of those occurring in situations of danger. *J. Neurol. Psychopath.*, 1936, 16, 256-260.—The occurrence of fits provoked by anger is interpreted in terms of Pavlov's principles of cortical function. The decisive factor is not anger but the suppression of the aggressive impulses which accompany anger. Excitation is thus crowded into other parts of the motility substrate and may, by an increase in tension, cause the discharging lesion to go off.—D. G. Marquis (Oxford, England).

4088. Ligterink, J. A., & Simons, C. H. Schizophrenie und Diabetes mellitus bei Juden. (Schizophrenia and diabetes mellitus among Jews.) *Acta Psychiat.*, Kbh., 1936, 11, 103-117.—On the basis of 6 case histories (5 women and 1 man), the writer concludes that Jewish schizophrenics are from 2 to 2½ times greater carriers of hereditary diabetes than non-Jews. Heredity is direct in these cases. There appears to be a relationship between diabetes, manic-depressive psychosis, and pyknic physique. This relationship is most evident in the case of Jewish females.—H. A. Kohn (Mooseheart Laboratory for Child Research).

4089. Löfvendahl, H. Gjessings och Lingjærdes undersökningar rörande schizofreni. (The investigation of Gjessing and Lingjærde concerning schizophrenia.) *Svenska Lakartidn.*, 1936, 33, 647-658.—Review of the recent very extensive investigation of the two Norwegian scholars, Gjessing and Lingjærde, concerning schizophrenia and its relations to somatic criteria.—M. L. Reymert (Mooseheart Laboratory for Child Research).

4090. Lurie, L. A., Tietz, E. B., & Hertzman, J. Functional psychoses in children. An analysis of the findings in twenty cases of psychotic children studied at the child guidance home. *Amer. J.*

Psychiat., 1936, 92, 1169-1184.—The finding that 2% of the first 1000 cases in the child guidance home had psychoses casts some doubt on the belief that mental disease is comparatively rare among children. "It would seem fair to say that any child who is not mentally retarded and who has no organic involvement, but who shows a simultaneous break in the normal progression of its intellectual, emotional, and social development, is likely to develop a psychosis later in life and hence should be carefully watched."—R. Goldman (Clark).

4091. Malzberg, B. New data relative to incidence of mental disease among Jews. *Ment. Hyg.*, N. Y., 1936, 20, 280-291.—In New York state, foreign-born Jews have a lower rate of first admission than have all white foreign-born. The greatest differences occur in connection with alcoholic psychoses and general paresis. There are only slight differences between foreign-born Jews and all white foreign-born in the manic-depressive psychoses. However, among Jewish males the rates are slightly less than those of the latter group. The foreign-born Jewish females have a slightly higher rate of mental disease than have foreign-born Jewish males. Among all foreign-born the males have a higher rate than the females. Functional psychoses occur more frequently among the Jews than among all foreign whites.—H. S. Clapp (Grasslands Hospital, Valhalla, N. Y.).

4092. Manne, J. Mental deficiency in a closely inbred mountain clan. *Ment. Hyg.*, N. Y., 1936, 20, 269-279.—A brief account of mental conditions of the "A" family, a mountain clan, is carried through several generations. The results of inbreeding between members of a defective stock are evidence that this is a vital problem. Sterilization is advocated to prevent further propagation among these defectives.—H. S. Clapp (Grasslands Hospital, Valhalla, N. Y.).

4093. McKinney, F. Personal mental hygiene in psychological instruction. *Psychol. Exch.*, 1936, 4, 179-186.—A discussion of the present status of personal mental hygiene in colleges. "It is forcing itself continually into the curricula of the departments of psychology in American universities, and the research projects, experimental literature, and text books are appearing increasingly." The author suggests that the supplementation of the traditional scientific general course with the mental hygiene viewpoint would increase the value of the course to the student.—N. Goldman (Worcester State Hospital).

4094. Mitrano, A. J. Problem of secondary motivation. *Train. Sch. Bull.*, 1936, 32, 165-171.—The aim was to investigate the problem of human secondary motivation in a real life situation. The subjects were mentally deficient children with mental ages under five. They had been previously examined mentally and physically. The primary motivation was the "food urge." The child was taught to drop a poker chip into an apparatus which yielded candy. The strength of the primary motivation habit is represented by (1) number of candies the child secures

in a given time, or (2) number of chips inserted into the apparatus when no candy was forthcoming. For the secondary motivation habit, another apparatus was used. The motive strength was measured by (1) the number of chips the child will secure by means of marbles when chips cannot be exchanged for candy, and (2) the number of marbles dropped into the apparatus when no chips are forthcoming. On the first day two groups were taught to use marbles to get chips and then to use chips to get candy. On the second day one group was permitted to have marbles, but their insertion in the machine yielded nothing; the other group found that the insertion of chips brought candy. The first group broke the habit more readily. The farther removed it is from a goal the more quickly a habit will be broken. At a certain mental age we come upon "foresight," or a tendency of the individual to provide and make plans for the future.—*E. M. Achilles* (Columbia).

4095. Panse, F. *Beitrag zur Belastungsstatistik einer Durchschnittsbevölkerung: Geschwistern und Eltern von 100 Berliner Paralytikehefrauen.* (Contribution to the statistics concerning disorders in an average population: brothers, sisters and parents of the wives of 100 Berlin paralytics.) *Z. ges. Neurol. Psychiat.*, 1936, 154, 194-222.—Statistics concerning the frequencies of disorders in the average population have been lacking so far in northern Germany. The writer studied the 558 brothers and sisters and the parents of the 100 women. Percentages of various psychoses, forms of feeble-mindedness, etc., are given. The results as a whole agree with those of analogous studies in Munich and Basel, although epilepsy was more frequent among the parents and brothers and sisters of the Berlin group.—*C. W. Fox* (Rochester).

4096. Petit, G., & Delmond, J. *Le syndrome d'Adie en pathologie mentale. Ses rapports avec les syndromes neuro- et psycho-anémiques.* (The syndrome of Adie in mental pathology; its relation to the syndromes of neur- and psychoasthenia.) *Ann. méd.-psychol.*, 1936, 94, 497-519.—The syndrome of Adie consists of tonic pupils and absence of tendon reflexes. Tonic pupils are discriminable from Argyll Robertson pupils. Tonic pupils accommodate and converge after some hesitation, while the Argyll Robertson pupils make such accommodations promptly. Tonic pupils appear to be lacking in adaptation to light, while the Argyll Robertson pupils really are lacking in such adaptation. Tonic pupils dilate slowly when the light is diminished and contract again in the presence of bright light. Although Adie considered his syndrome benign, others have found it to be associated with several active and latent forms of disease. The present authors have found it with syndromes of neur- and psychoasthenia. Bibliography.—*M. B. Mitchell* (N. Y. A., Concord, N. H.).

4097. Pollock, H. M. *The social significance of mental disease.* *Ment. Hlth Observ.*, 1936, 4, 1 ff.—The author points out the cost of mental diseases to society in the maintenance and operation of its state hospitals and in the reduced earnings of patients. The need for preventive action, especially against

syphilitic and alcoholic mental disease, is stressed.—*R. H. Brown* (Yankton).

4098. Quercy, —. *Les hallucinations volontaires.* (Voluntary hallucinations.) *Gaz. hebdom. Sci. méd.*, 1934, No. 14. Pp. 20.—In addition to deliria in which sick persons claim that they see and hear what they wish even when the things do not exist, and in addition to passive hallucinations, there exist numerous sick persons and some rare normal individuals who can voluntarily obtain visual or auditory hallucinations. A discussion of these is given.—(*Courtesy Année psychol.*)

4099. Ross, T. A. *Prognosis in the neuroses.* London & New York: Cambridge Univ. Press & Macmillan, 1936. Pp. 194. \$3.00.—This book, as well as being an investigation of the prognosis in psychoneuroses, is an argument for the short, active treatment of these cases without resort to formal psychoanalysis. The conclusions are based on the observation of 1186 cases by the author while they were at the Cassel Hospital, England, and their follow-up by means of letters. The environment in which the patient is placed when he enters Cassel Hospital and the methods of psychotherapy used there are explained. The difficulty of evaluating correctly the replies to letters is discussed. Five brief reports of cases where a longer treatment was essential are given. Anorexia nervosa, traumatic neuroses and compensation neuroses are discussed. The prognosis in obsessional-compulsive neurosis, with regard to suicide, to becoming insane, and to alcoholism is considered. The last half of the book consists of statistics of the cases of neurosis admitted to the Cassel Hospital from 1921 to 1933. Reports "after three years," "after five years," and "in 1934" indicate only the well, improved and those lost sight of. A final column shows the number who relapsed in the whole period. In 1934, 31% of all patients contacted were well and 7% were improved. A short index completes the volume.—*M. H. Erickson* (Eloise Hospital).

4100. Treadway, W. L. *The place of mental hygiene in a federal health program.* *Publ. Hlth Rep., Wash.*, 1936, 51, 181-193.—The federal health program should include mental as well as physical health. The Public Health Service could serve as a coordinating service between the states and between federal departments; it could serve as a depository for the collection and dissemination of research and statistical information, and it could foster research in the field of mental disease.—*C. M. Louttit* (Indiana).

4101. Velikovsky, I. *Psychic anaphylaxis.* *Psychoanal. Rev.*, 1936, 23, 187-194.—"Psychic anaphylaxis" is characterized by special sensitivity to an agent which at one time happened to act on the individual and which when again experienced causes a reaction far exceeding the first in intensity. There is an analogy between physiological and psychological anaphylaxis, and infantile trauma is related to it. Psychic anaphylaxis is found in all analyzed cases in which a heightened reaction points to a recent recurrence. A childhood experience may pave the

way for a very marked reaction in later life. This condition is illustrated by a case of an asthmatic man who had marked bronchitis. As with urticaria and other findings, studying the case revealed that he had had three experiences when he was badly frightened and had a sensation of choking. The asphyxia was linked with water phobia, legal fears, and danger of death. There is no hard and fast line between biological and psychic anaphylaxis. Fear is closely allied to the anaphylactic condition.—*L. S. Selling* (Recorder's Court, Detroit).

4102. **Weygandt, W.** *Don Quijote des Cervantes im Lichte der Psychopathologie.* (Cervantes' Don Quixote in the light of psychopathology.) *Z. ges. Neurol. Psychiat.*, 1936, 154, 159-185.—After an extensive review of *Don Quixote*, the author concludes that although the novelist was living in a time when psychopathology was quite undeveloped, he portrayed in his hero a clear picture of a paranoid disorder. Internal evidence suggests that Cervantes plainly intended Don Quixote as a pathological individual.—*C. W. Fox* (Rochester).

4103. **White, W. A.** *Outlines of psychiatry.* (14th ed.) Washington: Nerv. & Ment. Dis. Publ. Co., 1935. Pp. 494. \$4.00.—This edition is divided into three parts, the first of which contains 7 chapters and surveys the general field of psychiatry, discussing descriptive and genetic psychology, the nature, classification, causes, prognosis and treatment of mental diseases, and the problem of general symptomatology. Part 2, containing 11 chapters, surveys the clinical field, discussing in detail the various forms of mental illness, including borderline and episodic states and idiocy and imbecility. Part 3, containing 3 chapters, is devoted to the problems involved in examination and discusses the principles and methods of examination, the Kuhlmann and the Binet-Simon tests, and suggestions for the writing of a mental history. Author and subject indexes are given.—*M. H. Erickson* (Eloise Hospital).

4104. **White, W. A.** *The influence of psychiatric thinking on general medicine.* *Ment. Hyg., N. Y.*, 1936, 20, 189-204.—The concept of the organism as a whole has been forced upon the attention of general medicine. The relation of the physician to the patient has been stressed, as well as therapeutic procedures in relation to the organism as a whole. Psychiatric thinking has changed the concept of disease. Until recently disease was looked upon as something invading the organism from without. Excepting accidents, disease is now considered as a function of the organism. Medicine is gradually availing itself of the assistance of psychiatry and of the sociological sciences as well of other sciences.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

4105. **Williams, G. W., & Mendenhall, M. C.** *The application of a test of suggestibility to a group of epileptics.* *J. gen. Psychol.*, 1936, 14, 422-437.—The Hull "sway test" for suggestibility was given four times to each of 100 epileptic patients. Responses were classed as positive, zero, and negative. The reliability of the test is shown by the fact that

80% of the subjects gave the same type of response on all four trials. Epileptics have a much larger proportion of zero responses than do normal subjects, and resemble the manic patients previously reported by Williams.—*H. Schlosberg* (Brown).

4106. **Winiarz, W., & Wielawski, J.** *Imu-a psychoneurosis occurring among Ainus.* *Psychoanal. Rev.*, 1936, 23, 181-186.—The Ainus have an archaic social system. The spirits of serpents can cause diseases. There is an association between the psychopathological state of imu and the snake. It occurs among the Ainus but not among the Japanese, although Japanese children adopted by Ainu families are subject to the disease. The disease is one affecting old women, and is seldom found in men. There are the automatic movements of echopraxia, echolalia, and echomimia, hysterical tics, and signs of infantile reactions. There are also minor forms. Imu is associated with latah and amok.—*L. S. Selling* (Recorder's Court, Detroit).

[See also abstracts 3985, 4035, 4036, 4037, 4039, 4056, 4110, 4131, 4133, 4149, 4178, 4181, 4184, 4250, 4259, 4260, 4281, 4293.]

PERSONALITY AND CHARACTER

4107. **Allport, G. W., & Schanck, R. L.** *Are attitudes biological or cultural in origin?* *Character & Pers.*, 1936, 4, 195-205.—Over a period (1931-1935) students in social psychology at Harvard and Radcliffe were given a test of their attitude toward homicide in defense of self, family, another person, country, honor of self, of family, property against burglars, property against trespassers. The same test was also given to a southern group (Duke). The results show that the roots of this attitude are biological (instinctive); that it can be influenced by culture; and that its motivation is personal. Cultural influence is illustrated by: (1) Group differences: southern students tended to rank defense of family honor higher than that of nation, while the order was reversed with the groups at Cambridge. (2) Sex differences: women ranked honor of self above that of family, while the reverse was true of men, this being the only sex difference in the study. This difference exists because to a woman honor is closely associated with physical safety. (3) Time differences: the three "honor" attitudes varied somewhat over the five-year period; however, they never rose to the level of the "personal safety" attitudes or sank as low as the "property" attitudes.—*M. O. Wilson* (Oklahoma).

4108. **Bartlett, E. R., & Harris, D. B.** *Personality factors in delinquency.* *Sch. & Soc.*, 1936, 43, 653-656.—A battery of tests too numerous to mention was given to the boys (delinquents) in the Indiana Boys' School, Plainfield, Ind., and to a control group of boys (unselected) in the Greencastle High School, Greencastle, Ind. The delinquent and non-delinquent groups showed no essential differences in mental ability; socio-economic status; general health; adjustment to life in groups, other than to family and school; general range of interests; knowledge of

accepted moral practices; and religious attitudes. The delinquents, as contrasted with the non-delinquents, tended to show a greater emotional instability; more difficulty in maintaining satisfactory home, family, and school relationships; more participation in socially undesirable leisure-time activities; and a greater tendency to cheat on class-room tests.—*H. L. Koch* (Chicago).

4109. **Diethelm, O.** Investigations with distributive analysis and synthesis. *Arch. Neurol. Psychiat.*, Chicago, 1936, 35, 467-486.—A procedure is described for the investigation of personality difficulties on a psychobiological basis. It involves the analysis of all the factors involved, with attention to the patient's complaints, the psychodynamic and somatic features, the situational conditions and the constitutional make-up. Two illustrative cases are presented in detail.—*D. G. Marquis* (Oxford, England).

4110. **Harriman, P. L.** The ethical discrimination of the epileptic. *J. abnorm. soc. Psychol.*, 1936, 30, 411-418.—The Kohs ethical discrimination test sharply differentiates between normal and epileptic subjects when they are paired for educational status and chronological age. The epileptic group as a whole make very low scores. There is a strong intimation that grand mal epilepsy impairs the moral judgment to a large degree. Epileptics have little ability in abstract reasoning, and tests of common sense elicit grossly inadequate responses. The Kohs test appears to be a measure of abstract intelligence as well as a test of ethical discrimination. If that assumption be true, the epileptic group may have had a double handicap in the test, being deficient both in general intelligence and in ethical discrimination.—*C. H. Johnson* (Boston Psychopathic Hospital).

4111. **Kelly, E. L., Miles, C. C., & Terman, L. M.** Ability to influence one's score on a typical pencil-and-paper test of personality. *Character & Pers.*, 1936, 4, 206-215.—The Stanford masculinity-femininity test was administered to 19 men and 33 women under three conditions: (1) normal; (2) when one half of the group were instructed to be as masculine as possible and the other as feminine as possible; and (3) when the attitudes assumed by the half-groups in (2) were reversed. The results indicate that the subjects were able to shift their scores enormously in either direction, men shifting theirs more in the masculine and women shifting theirs more in the feminine direction. Ability to shift scores is not correlated with age, intelligence (Thorndike), or college grades, but is possibly related to social development. It is recommended that other paper tests be submitted to similar investigation.—*M. O. Wilson* (Oklahoma).

4112. **Knower, F. H.** Experimental studies of changes in attitude. II. A study of the effect of printed argument on changes in attitude. *J. abnorm. soc. Psychol.*, 1936, 30, 522-532.—Statistically significant group changes in attitude may occur as a result of presenting argument to subjects in printed form. Neither the logical nor the persuasive argu-

ments presented in this study can be said to have produced the greater positive change in attitude. Both types of argument produced statistically significant changes. Subjects who read the arguments when alone in a room were more affected by them than were subjects who read them in a classroom with other subjects. There was a considerably greater change of attitude in the women subjects who read the arguments than in the men who read them. The change which occurred in these subjects who read printed arguments was only 75 to 85% as great as that which occurred in other subjects to whom these arguments were presented orally. When subjects read two arguments, one which defended their previous attitude and one which opposed it, more subjects changed in the direction of an intensification of their previous attitude, i.e. in a negative direction, than changed in the opposite direction. When two speeches on opposite sides of the question were read, primacy was an important factor.—*C. H. Johnson* (Boston Psychopathic Hospital).

4113. **Maller, J. B.** Personality sketches; for individual diagnosis. Form A. Inventory of social adjustment. Form B. Inventory of personal adjustment. New York, Columbia Univ.: Author, 1936. Pp. 8.—Each form consists of 50 cards, each card bearing one inventory item. The subject is directed to sort out the cards into two boxes, one marked "Yes, I am the same" and the other "No, I am different." Most of the items have been selected from the author's character sketches. The reliability is .91, based on an odd-even correlation in a homogeneous group of 190 sixth-grade children.—*R. Goldman* (Clark).

4114. **Morton, N. W.** Personality tendencies and physique. *J. abnorm. soc. Psychol.*, 1936, 30, 439-442.—The Wertheimer-Hesketh morphological index was determined for each subject by means of a centimeter tape and Bertillon caliper. Each subject completed a copy of the Bernreuter personality inventory, and in addition 31 of the group did the Neymann-Kohlstadt diagnostic test for introversion-extraversion. There resulted no basis for belief in any linear relationship between the Wertheimer-Hesketh morphological index and age or personality test scores. The non-linear coefficients, even after correction, are hardly trustworthy in view of the small number of cases involved and of the possible influence of a single extreme case upon the coefficient.—*C. H. Johnson* (Boston Psychopathic Hospital).

4115. **Nowotny, K.** Nervousness. *Int. J. indir. Psychol.*, 1936, 2, 62-70.—A person is made nervous by a situation in which he is unable to react appropriately. One could find for every man a situation in which he would become nervous. Nervousness is characterized either by excessive, inappropriate action, or by insufficient action. It is the devastating struggle for prestige, the insanely pitched striving for recognition, which makes the adjustment to reality difficult. Everyone can contribute to the reduction of nervousness by making life easier and kinder.—*M. F. Martin* (West Springfield, Mass.)

4116. Patry, F. L. **Personality types of educational administrators.** *J. abnorm. soc. Psychol.*, 1936, 30, 407-410.—The statotropic administrator is so conditioned by the status quo that he misses the present opportunities, and lays himself open to inefficiency and failure because he is unable or unwilling to sensitize himself to new occasions, forces, needs and developments. The solotropic administrator tends to dominate and dictate rather than guide and share. The sociotropic administrator is the mature social type who talks and works with his teachers. They are his co-workers, who share with him his problems, ideas, ideals, and methods.—C. H. Johnson (Boston Psychopathic Hospital).

4117. Pescor, M. J. **The Neymann-Kohlstadt diagnostic test for introversion-extraversion as applied to delinquents.** *Amer. J. Psychiat.*, 1936, 92, 1137-1143.—1000 individuals comprising a prison population were studied. The results were grouped in a neutral or central zone, in contrast to the normals examined by the authors of the test, who showed either marked introvertive or extravertive traits. Those prisoners who were classified as either extravert or introvert showed no unusual differences in any respect. A retest reliability of .63 and a split-half reliability of .19 were found.—R. Goldman (Clark).

4118. Rohrer, H. **Kleine Einführung in die Charakterkunde.** (Short introduction to character study.) (2nd ed.) Leipzig: Teubner, 1936. Pp. 154. RM: 2.80.—R. R. Willoughby (Clark).

4119. Schnaerer, B. R. **The validity and utility of the Allport-Vernon study of values test.** *J. abnorm. soc. Psychol.*, 1936, 30, 419-422.—Results obtained from the administration of the Allport-Vernon study of values test to Reed College students validate experimentally both the presuppositions of Spranger and the claims of Allport and Vernon. The utility of the test was shown by the relatively high correlation between the various parts of it and the various divisions of the American Council on Education college sophomore test.—C. H. Johnson (Boston Psychopathic Hospital).

4120. Schubert, H. J. P., & Wagner, M. E. **The relation of individual personal data responses and transiency, place among siblings, and academic ability.** *J. abnorm. soc. Psychol.*, 1936, 30, 474-483.—The 25 most differentiating items in the Woodworth-Mathews personal data sheet were used on a group consisting of 229 boys and 248 girls who were seniors in high school and 117 transient boys. The student and the transient show personality differences: the student is definitely more prone to feelings of malaise; the transient is particularly maladjusted to his family situation, though on the whole he is relatively lacking in neurotic responses. The academically successful boy and the academically unsuccessful girl are more unstable than other high school seniors. The verbally inadequate and academically unsuccessful students are more likely to be paranoid than those more academically apt. Only children do not show paper and pencil signs of unbalance in as large percentages as those from larger families. The eldest

child, both boy and girl, tends to be more afflicted with neurasthenic malaise and less with feelings of persecution than non-eldests. The intermediate child, both boy and girl, is more liable to be paranoid.—C. H. Johnson (Boston Psychopathic Hospital).

4121. Spoerl, H. D. **Faculties versus traits: Gall's solution.** *Character & Pers.*, 1936, 4, 216-231.—A functional correspondence exists between Gall's determinate faculties and traits of personality. The faculties in question (with Gall's numbering) are: (1) instinct of generation; (2) love of offspring; (3) attachment, friendship; (4) instinct of self-defense, courage; (5) carnivorous instinct, wish to destroy; (6) sentiment of property; (8) pride; (9) vanity; (10) circumspection, cautiousness; (22) wit; (24) goodness; (26) God and religion; (27) firmness. They satisfy practically all of Allport's criteria for a trait (*J. abnorm. soc. Psychol.*, 1931, 25, 368-372).—M. O. Wilson (Oklahoma).

4122. Squires, P. C. **The case of Dickens as viewed by biology and psychology. A nearer approach to the explanation of the rift between the novelist and his wife.** *J. abnorm. soc. Psychol.*, 1936, 30, 468-473.—Dickens was of the hyperthyroid type, with well developed adrenals. This combination furnished great driving power. His parathyroids, however, were subnormal, giving rise to spasms in childhood. His vanity and strong tendency to foppishness are ascribed more particularly to an excess of post-pituitary secretion. Catherine, who became more and more exhausted by child-bearing, presents the case of a somewhat myxedematous woman, giving in easily to exertion of any kind. The two were radically different in glandular organization and consequent behavior.—C. H. Johnson (Boston Psychopathic Hospital).

4123. Wexberg, E. **Concerning laziness.** *Int. J. indiv. Psychol.*, 1936, 2, 104-113.—The popular psychology of laziness, like the view that work is a curse, is erroneous. The notion that we work only to escape hunger is based more on ideology than on living practice. Laziness appears only where the will to work has been paralyzed by an active positive resistance. The author analyzes a case in which a patient supposed himself lazy and staged a continuous inner battle against his weakness of will until shown that his laziness served the unconscious goal of revenge upon a nagging, ambitious mother.—M. F. Martin (West Springfield, Mass.).

4124. Wiley, L. N., & Trimble, O. C. **The ordinary objective test as a possible criterion of certain personality traits.** *Sch. & Soc.*, 1936, 43, 446-448.—A group of college students who took four different objective-type examinations as part of their regular work in a course in psychology were requested to indicate in the case of each test item whether they were certain of it, doubtful of it, guessing the answer, or unwilling to respond. The tests were then scored for certainty, doubt, guessing, and achievement. When the certainty scores on the four tests were intercorrelated, the *r*'s averaged .66, whereas the mean of the correlation coefficients for the achieve-

ment scores was .39. The mean r 's for the guessing and doubt scores were .56 and .57, respectively. The authors believe that objective tests scored in the ways indicated can be used as personality tests, but they do not specify what trait is described.—*H. L. Koch* (Chicago).

4125. Wilfert, M. *Psychologie und Pädagogik der Selbstbeherrschung*. (Psychology and pedagogy of self-mastery.) *Manns pädag. Mag.*, 1936, No. 1426. Pp. 210.—*R. R. Willoughby* (Clark).

4126. Williams, W. A. A system of reaction-forms and personalities. *J. abnorm. soc. Psychol.*, 1936, 30, 443-454.—Several authors have indicated that the systems derived from psychological theories are worthless in social and pathological case work, whereas the concrete types and groups of practical psychiatry lack psychological system and perspicacity. Almost all mental descriptions depend on opposites or contraries, i.e., extremes of a polar range. Simple one-dimensional descriptions are only abstractions; real behavior always involves a multitude of such polarities which are organically integrated. By means of three intersecting polarities or ranges of quality proportions, the author endeavors to construct a spatial system of reactions. The simplest concrete image of this system is a sphere with three intersecting diameters representing the three oppositions. On the periphery of the sphere the resultant "fields" of behavior are plotted. The vertical polarity is the sthenic-asthenic range commonly used in psychopathology. The first horizontal polarity is the comatose-excited range of opposition derived from the psychiatric experiments of Loewenstein on war-neurotics and epileptics. The third polarity is the schizoid-cycloid opposition. The author believes almost all cases of psychopathic reactions can be placed somewhere on this system.—*C. H. Johnson* (Boston Psychopathic Hospital).

[See also abstracts 3832, 3974, 4046, 4047, 4057, 4164, 4184, 4185, 4193, 4199, 4214, 4220, 4262, 4288, 4311.]

SOCIAL FUNCTIONS OF THE INDIVIDUAL

4127. Adams, J., Arnold, M., & Witmer, H. Recidivism among juvenile delinquents examined by the Illinois Institute for Juvenile Research. *Smith Coll. Stud. soc. Work*, 1936, 6, 293-323.—"This investigation of the later behavior of a group of delinquents referred by the Juvenile Court for examination at the main office of the Illinois Institute for Juvenile Research had a double purpose: to compare the results of this court-clinic work with that reported by Sheldon and Eleanor Glueck for the Boston Juvenile Court and the Judge Baker Foundation, and to study in a more descriptive manner the children's adjustment and the causes for its variation. The first objective was greatly hampered by the fact that the present investigation was limited to one hundred and nineteen boys and girls compared with the Gluecks' one thousand boys. The second, also, was only partially achieved, due to the paucity of material. . . . In general, the

investigation seemed to indicate that recidivism may not always be as frequent as the Glueck study suggests, that a more favorable showing for the work of court and clinic is made when less mechanical definitions of social adjustment are used, and that a close study of personality trends and environmental situations might result in a clearer understanding of why some children do and others do not become recidivists."—*R. H. Brown* (Yankton).

4128. Alexander, H. G. Linguistic morphology in relation to thinking. *J. Phil.*, 1936, 33, 261-269.—Language is an attempt to symbolize concepts. Vocabulary emphasizes concepts of what is perceptually obvious; morphology emphasizes less obvious structural relationships. Philosophic discourse has centered attention on the former, but the latter is important. The category of time provides a suitable illustration. In the Indo-European languages the tense systems imply a single time continuum in which the several tenses mark positions. They also express the relative duration of events. But other languages, the Navaho for example, express "aspect," i.e. lapse of action or its nature from the standpoint of continuity. Verb forms indicate such aspects as the momentaneous, the durative, the repetitive, the continuative, etc. Time is much more than our tense forms would suggest, our language indicating a bias which may not be without fault. The more primitive language is more complex but the more advanced may err on the side of over-systematization.—*E. T. Mitchell* (Texas).

4129. [Anon.] Students' dissertations in sociology. *Amer. J. Sociol.*, 1936, 41, 783-802.—A list is given of doctoral dissertations and masters' theses in preparation in universities and colleges in the United States and Canada as compiled from returns from letters sent by the editors of the *American Journal of Sociology* to departments of sociology. The following topics are of particular interest to psychologists: (1) Doctoral dissertations: (Catholic University) certain groups of Catholic delinquent boys in Brooklyn, and a comparative analysis of three groups of adolescent boys in reference to certain non-intellectual traits; (Chicago) imitation as a sociological concept and as a factor in crime; (Cornell) factors in marital adjustment in rural families; (Harvard) time budgets and human behavior, youth and associationism, and the psychological or social group; (Minnesota) personal social history factors and prediction of achievement among students, criterion of internal consistency as a method of personality scale construction, and social interaction in young children with special reference to subordination and domination; (New York University School of Education) social backgrounds and relative achievement of rural and village school children; (Pennsylvania) changing social attitudes toward the college professor; and (Wisconsin) the application of the multiple-factor theory to the measurement of social attitudes, changing attitudes in rural young people, contacts and participation of rural people, and contemporary leadership with special reference to prediction and measurement

of traits; and (2) masters' theses: (Catholic University) personality studies of orphanage residents, and function of the family agency in the treatment of behavior problems in children; (Chicago) parental preferences, and study of childhood, marital and marital-parental roles in college women; (Columbia) adjustment problems of negro women migrants to Harlem; (Fisk) personality of servants with special reference to the negro; (Graduate School for Jewish Social Work) child-parent maladjustment as revealed in case records, and the after-careers of graduates of a school for problem boys; (Iowa) marital adjustments of 50 married women working in the metropolitan area; (Michigan State College) moral and social attitudes of high school and college students, and the relation of social factors to maladjustment in eighth grade students; (Minnesota) effects of birth control clinic contact on marital compatibility; (North Carolina) personality adjustment as a condition of marital happiness; (Northwestern) instability of forced marriages; (Pennsylvania) changing social attitudes toward the college professor; and (Pittsburgh) parent attitudes and pupils' social adjustments.—A. B. Hunter (Clark).

4130. Berger, W. Beiträge zur Sprachklanganalyse. I. (Contribution to the analysis of language sounds. I.) *Z. Biol.*, 1934, 45, 329-340.—The methods of analysis are based on the use of resonators, or objective recording of vibrations produced either mechanically or electrically.—(Courtesy *Année psychol.*)

4131. Bixby, F. L. The place of psychiatry in a coordinated correctional program. *Publ. Hlth Rep., Wash.*, 1935, 50, 98-101.—Presents reasons for a classification committee in penal institutions and points out requirements for efficient operation.—C. M. Louttit (Indiana).

4132. Bottome, P. Main relationships. *Int. J. indiv. Psychol.*, 1936, 2, 55-61.—Our main relationship, whether it be to husband, parent, child, or friend, commonly takes one of four forms: (1) "The boa-constrictor and the rabbit" is a human partnership in which one partner decides everything. (2) "The neck-and-neckers" compete with each other and are jealous. (3) "The tight-rope dancers" expect their partners to be perfect. They are exacting and hard to live up to. (4) "The fifty-fifties" without undue strain make their main relationship neither possessive nor competitive nor impossible. The participants can never afford to blame each other.—M. F. Martin (West Springfield, Mass.)

4133. Bowman, H. L. Mental hygiene in relation to religion. *Ment. Hyg., N. Y.*, 1936, 20, 177-188.—Religion and psychiatry are closely allied. There are forms of religion that can be of service to psychiatry, just as psychiatry has contributed to religion. The psychiatrist often needs the aid of the minister to supplement his work. This is especially true where the background of the patient is such that his whole adjustment to life involves a religious orientation. Religion not only aids in fostering a desire for reeducation, but furnishes such techniques as prayers,

worship, and shared idealism to advance this reeducation. It is of value also in working out a philosophy of life. In order to avoid exploitation the common goal of religion and psychiatry must be kept clear.—H. S. Clapp (Grasslands Hospital, Valhalla, N. Y.)

4134. Brachfeld, O. Individual psychology in the learning of languages. *Int. J. indiv. Psychol.*, 1936, 2, 77-83.—Linguistic talent cannot be traced to intelligence exclusively; courage is also important. The author, who has taught foreign languages privately for years, has observed a sudden turning point between the halting speech of the beginner and the confident fluency of the advanced student. Infants first learning to talk show a similar turning point. In teaching a foreign language, the details, grammatical correctness, and faultless pronunciation are less important than the easy fluency resulting from courage.—M. F. Martin (West Springfield, Mass.)

4135. Bretzfeld, K. Jugendliche Massenmörder. (Juvenile mass murderers.) *Arch. Kriminol.*, 1935, 97, 205-210; 1936, 98, 57-70.—Two boys, 14 and 16 years old, premeditatedly killed their parents and two younger brothers with a hatchet. The father was strict, the mother indulgent. She was pregnant and repeatedly expressed a wish for a girl. In the mental clinic the boys adopted a martyr attitude, expressed no remorse, and were concerned only to get possession of their parents' scanty property. The case is instructive as giving a glimpse into the depths of the psyche of the juvenile delinquent and showing that the recognizable signs of hatred before the crime may be slight.—M. E. Morse (Baltimore).

4136. Canady, H. G. The effect of "rapport" on the IQ: a new approach to the problem of racial psychology. *J. Negro Educ.*, 1936, 5, 209-219.—In this study 418 negro children and 25 white children were compared to determine the degree of loss or gain in Stanford-Binet IQ when tested by a negro. 23 negro subjects and 18 white subjects were tested first by a negro examiner (N) and second by a white examiner (W). The remaining 25 negroes and 7 white subjects were tested first by W and second by N. The intervals between tests ranged from one day to one year. In the combined negro group only 4 gained more than 10 points under N, and only 5 of the combined white group lost more than 10 points. Under N an average increase of 6 points in IQ was found for negroes and an average decrease of 6 points for whites. The change in individuals was not systematically upward or downward, but rather haphazard. It is noted that retests of many children by the same examiner show a change of about 5 points up or down.—H. S. Clapp (Grasslands Hospital, Valhalla, N. Y.)

4137. Christian, A. M., & Paterson, D. G. Growth of vocabulary in later maturity. *J. Psychol.*, 1936, 1, 167-169.—Whereas almost all studies dealing with the effect of age on verbal ability have indicated a detrimental effect, this study shows that when the factor of speed is eliminated, the older relatives of freshmen at the University of Minnesota tended to

recognize more words in the list given (Sub-test A, Univ. of Minn. College Ability tests) than did the freshmen. The proportion of words recognized tended to increase for each decade, even past 60 years.—*J. McV. Hunt* (St. Elizabeth's Hospital).

4138. **Clark, B.** Eye-movement photography as a diagnostic method in the determination of reading disability. *Amer. J. Optom.*, 1936, 13, 121-129.—The author summarizes some of the possibilities of eye-movement photography as an objective method for the determination of reading disabilities.—*R. J. Beitel, Jr.* (American Optical Company).

4139. **Cunningham, B. V.** Family behavior. Philadelphia: Saunders, 1936. Pp. 471. \$2.75.—This text for college students looks at family life from two angles: a review of childhood experiences, and a pre-view of adulthood and prospective experiences as family heads. Mental hygiene aspects are stressed. Socio-economic factors are evaluated in a comprehensive discussion of neighbors and neighborhood influences and of problems of employment, work satisfaction and leisure. Successful adjustment is possible only if home and family problems are regarded as part of a larger social problem. Our present-day attitudes toward recreation are deeply influenced by those of preceding work-dominated generations, but there is being slowly built up a new valuation of leisure for the maintenance of personal integrity and for creative and harmonious living. This, like other needed changes, must proceed gradually lest the sense of family stability and individual security be impaired. The final measure of the mental health of an individual is his own fair self-estimate. Each chapter of this book concludes with extensive suggestions for discussion and experiment and for further reading.—*M. P. Montgomery* (Faribault, Minn.).

4140. **Doms, F. P.** Les échelles Gaublonne. Le graphisme et l'expression graphique. (The Gaublonne scales. Writing and graphic expression.) *Sem. univ. Pédag. Univ. libre Brux.*, 1935, 1, 171-182.—A discussion and criticism of the work of Gaublonne (Brussels) an objective measurement of graphic aptitude in students.—*R. Nihard* (Liège).

4141. **Doms, F. P.** Le graphisme et l'expression graphique. (Writing and graphic expression.) *Sem. univ. Pédag. Univ. libre Brux.*, 1935, 1, 209-224.—A systematic bibliography of the discussions given at the Première Semaine Universitaire de Pédagogie de l'Université libre de Bruxelles, Brussels, 1935.—*R. Nihard* (Liège).

4142. **Durea, M. A.** A quantitative method for diagnosing the seriousness of asocial behavior of juvenile delinquents. *J. gen. Psychol.*, 1936, 14, 412-421.—Three criteria of asociality, namely duration, frequency, and numerical weightings of offences, are studied and their interrelationships computed. As a practical device they may be combined into a "delinquency index."—*H. Schlossberg* (Brown).

4143. **Ehrenstein, W.** Die Verwurzlung des Nationalismus im Gefühlsleben. (The roots of

nationalism in the affective life.) *Z. pädag. Psychol.*, 1934, 35, 16-24.—The psychological analysis of nationalistic feeling shows that the feeling is based on the consciousness of bonds with the people to whom the subject is related. The feelings which are naturally experienced toward one's family and closest friends are extended to others.—(Courtesy *Année psychol.*)

4144. **Fortune, R. F.** Manus religion. Philadelphia: American Philosophical Society, 1935. Pp. ix + 391. \$3.00.—A treatise on the religious and moral system of the Manus fisher folk of the Admiralty Islands, including a detailed diary of religious events.—*S. Rosenzweig* (Worcester State Hospital).

4145. **Foxe, A. N.** Crime and sexual development. Glen Falls, N. Y.: Monograph Editions Press, 1936.—The author reports an investigation into criminal behavior by the psychoanalytic method. The various types of crimes are described, with a classification of these crimes according to psychoanalytic theory and practice. The work includes the aspects of emotional disturbances and social maladjustment in the child, juvenile and criminal.—*R. E. Garner* (Clark).

4146. **Freeman, E.** Social psychology. New York: Holt, 1936. Pp. xii + 491. \$2.50.—A descriptive text written from the sociological viewpoint and emphasizing social criticism. Part I, on the individual basis of social phenomena, contains chapters on definition, the group-mind fallacy, individual psychology, normal and abnormal perception, maladjustments, and language; Part II, on individual and cultural determination of values, treats values in general and the values of special social groups; Part III (about half the book), on the psychology of some fundamental social values, is devoted to the concept of impartiality, economic theory, industrial organization, social sub-groups, art, and science. There are footnote references and an index.—*R. R. Willoughby* (Clark).

4147. **Gemelli, A., & Pastori, G.** La durata minima delle vocali sufficienti alla loro percezione. (The minimum duration of vowels sufficient to assure their perception.) *Arch. Fisiol.*, 1934, 33, 440-452.—Oscillograms of phonemes pronounced at different vocal pitches and in different verbal combinations were secured. The results indicate that the frequency of vibrations is of more importance than their duration, the contractions being aided by increase of vocal pitch; and that two vibrations were sufficient to enable the recognition of a vowel, the longer periods serving in the perception of tonal pitch, timbre of the voice, and intensity.—(Courtesy *Année psychol.*)

4148. **Glueck, S. S.** Crime and justice. Boston, Little, Brown, 1936. Pp. 357. \$3.00.—*R. R. Willoughby* (Clark).

4149. **Harms, E.** Beruf und Weltanschauung. (Occupation and ideology.) *Psychiat.-neurol. Wschr.*, 1936, 38, No. 15. Pp. 4.—The author considers mental disturbances and neuroses resulting from occupations and trades and suggests that therapeutic

treatment should be from the viewpoint of social psychology.—R. E. Garner (Clark).

4150. Hevner, K. **Experimental studies of the elements of expression in music.** *Amer. J. Psychol.*, 1936, 48, 246-268.—The present study was made in an effort to determine the affective value and expressiveness of music. 450 S's having all degrees of musical aptitude and interest were used. Lists of adjectives were arranged in related groups, and the S's were asked to check the appropriate adjectives after listening to different musical selections played on the phonograph. Melodies by famous composers were then rewritten in such a way that four characteristics of music could be isolated; the melodies were judged in terms of the same adjectives. The characteristics chosen were major-minor mode; ascending-descending melody; simple-complex harmony; and firm-flowing rhythm. In general, the major mode is happy, merry, etc., while the minor is sad, dreamy and sentimental. Firm rhythms are vigorous and dignified; flowing rhythms are happy, dreamy, and tender. Complex harmonies are exciting, vigorous, and sad; simple harmonies are happy, serene, lyrical. Differences produced by ascending or descending melody are not marked or consistent.—D. E. Johnson (Skidmore).

4151. Hinrichs, W. E. **The place of a psychologist in a juvenile correctional institution.** *Psychol. Exch.*, 1936, 4, 147-149.—At present, because of lack of equipment and personnel, there is little need for a full-time psychometrist in the juvenile correctional institution. There is need for a resident psychologist whose interests center in education and child development. His contribution can be in the formulation and carrying out of policies which will be contributive to characterological as well as to intellectual and physical development.—N. Goldman (Worcester State Hospital).

4152. Horowitz, E. L. **The development of attitude toward the negro.** *Arch. Psychol.*, N. Y., 1936, No. 194. Pp. 47.—Three tests were developed and administered to boys from kindergarten through the eighth grade in various types of communities, a retest after six months being conducted in some samples in New York City. The southern groups tested showed no more prejudice than did the children in New York City. A small group of Communist children tested in New York City showed no apparent prejudice against the negro. The expressed attitude seems independent of the mere degree of blackness of negro faces. A small group of white boys in a mixed school showed as much prejudice as did the boys in the all-white schools.—E. M. Achilles (Columbia).

4153. Husson, R., & Tarneaud, J. **Les phénomènes réactionnels de la voix.** (Reactive phenomena of the voice.) *Rev. franç. Phonat.*, 1933, 1, 251-310.—Using a laryngeal stroboscope, the importance of the reactive phenomena, hitherto neglected, in the laryngeal-pharyngeal area is shown. There is a discussion of the relationship between the functioning pharynx and the larynx in producing sounds, changing vocal quality, etc.—(Courtesy *Année psychol.*)

4154. **International Labour Office. Recreation and education.** London: P. S. King, 1936. Pp. viii + 151. 4/—Reports presented to the International Conference on Workers' Spare Time, held in Brussels in 1935. General accounts are given of movements in popular recreation and education in nearly all European countries. More detailed, but still general discussions, are presented on the cinema, on music, on broadcasting, and on public libraries.—F. C. Bartlett (Cambridge, England).

4155. Israeli, N. **The psychology of prediction: judgments relating to the past and future.** *Psychol. Exch.*, 1936, 4, 129-132.—Judgments were obtained from a group of 29 Yale undergraduates and 52 members of the Workers' Educational Association in Toynbee Hall, England, about the past and future percentage changes of the population of England and Wales, Italy, Japan, Sweden, and the United States. Variability of judgment increases with more and more remote past or future decades.—N. Goldman (Worcester State Hospital).

4156. Israeli, N. **Future developments in psychology.** *Psychol. Exch.*, 1936, 4, 163-165.—Ten different possible developments in psychology were listed on the experiment form and given to 202 undergraduates, who dated in each instance the probable occurrence of a discovery. Eight of the ten different developments listed (progress in psychiatry, electrical measurement of intelligence, speeding up learning, etc.) were considered as possible within the next 2600 years.—N. Goldman (Worcester State Hospital).

4157. Jenkins, M. D. **A socio-psychological study of negro children of superior intelligence.** *J. Negro Educ.*, 1936, 5, 175-190.—Subjects of this study were taken from grades 3 through 8 of the public schools of Chicago. 103 children of Stanford-Binet IQ 120 or above were selected. Each child was rated by one teacher on traits such as leadership, originality, etc. Interviews with parents furnished information relative to heredity, environment, developmental history and interests. The following tests were administered: New Stanford Achievement Test, advanced examination, Form W; personal index; pupil report and Sims score card for socio-economic status. The data assembled suggest that "intelligence as well as educability are matters of individual difference rather than racial differences." Relatively large numbers of negro children of very superior intelligence have been reported by other investigators. Girls with superior intelligence are found with more frequency than boys. On the basis of Stanford-Binet IQ the ratio is 233:100. Throughout the several grade and age levels superior negro children are evenly spread. The IQ 200 of one negro girl shows that negro children are found in the very highest level of test performance. Negro ancestry is not a limiting factor in intelligence-test performance. Superior negro children do not differ from other superior children.—H. S. Clapp (Grasslands Hospital, Valhalla, N. Y.).

4158. Jiménez de Asúa, L. **Valor de la psicología profunda en ciencias penales.** *Psicoanálisis y*

psicología individual. (Value of depth psychology in penal sciences. Psychoanalysis and individual psychology.) *Rev. Criminol., B. Aires*, 1935, 22, 751-789.—The etiology of criminal behavior is traced to complexes which result in part from: organic inferiority; social and economic conditions; sexual relations; and education. The Adlerian viewpoint is stressed. 154 references.—*R. M. Bellows* (Occupational Research Program).

4159. **Kantor, J. R.** *An objective psychology of grammar.* *Ind. Univ. Publ. Sci. Ser.*, 1936, No. 1. Pp. xvi + 344.—The traditional psychology of language has been based on the thesis that speech is a symbolic phenomenon with the function of presenting "mental" ideas. This mentalistic psychology has resulted in pitfalls and inconsistencies in grammar which Kantor points out. The organismic theory, which Kantor has developed systematically in previous works, is here applied to language and more particularly to grammar. Part I develops an organismic psychology of language; Part II discusses semantics, syntax, morphology, and phonology; Part III is concerned with the various parts of speech. For each subject discussed the author points out the inadequacy of a mentalistic psychology and then interprets the phenomenon from the point of view of an objective system of psychology.—*C. M. Louttit* (Indiana).

4160. **Lehmann, F. R.** *Die Erziehung bei schriftlosen Völkern.* (Education among preliterate peoples.) *Z. pädag. Psychol.*, 1935, 36, 225-241.—Primitive culture affords the best conditions for the study of the plasticity of the child mind from the standpoint of developmental psychology. Primitive education is totalitarian and uniform. The child's early economic independence favors the precocious maturing characteristic of primitive cultures. The latter, in turn, tends to halt mental growth. Pre-literate education is built up essentially on imitation and suggestion, which explains the lack of outstanding (i.e. creative) personalities among such peoples. Progress among them is the result of special excellence in the common activities. These talents are surrounded with secrecy and hence acquire a magic value, and their usefulness is inhibited, while in higher cultures they are consciously exploited as the basis of vocational training.—*M. E. Morse* (Baltimore).

4161. **Ley, J.** *Les troubles de développement du langage écrit. Le graphisme et l'expression graphique.* (Disturbances in the development of written language. Writing and graphic expression.) *Sem. univ. Pédag. Univ. libre Brux.*, 1935, 1, 17-33.—A brief discussion of the characteristics represented in the different forms of congenital word blindness, or developmental alexia, as Jackson calls it. Ley emphasizes the fact that, in contrast to aphasia, it consists of an "elective, intellectual defect," bearing solely on the psychological processes necessary in the acquisition of written language, a condition which is generally transitory.—*R. Nihard* (Liège).

4162. **Lincoln, J. S.** *The dream in primitive culture.* London: Cresset Press, 1936. Pp. xiii + 359.

18/—The author collected material himself from Navaho Indian groups, and has made use of much published and hitherto unpublished material, the latter collected by various investigators whom he names. An attempt is made throughout to see the dream in relation to the particular cultural setting from which it came. Though the author has been much influenced by Freud, the book is an original contribution and not an attempt to prove the validity of any particular school of thought in psychology. Full references to authorities are given.—*F. C. Bartlett* (Cambridge, England).

4163. **Machover, S.** *Intelligence and immigration.* *Psychol. Exch.*, 1936, 4, 222-227.—Criticism of the tests used and of the interpretation of the findings in a recent psychometric study of Puerto Rican children in New York City.—*N. Goldman* (Worcester State Hospital).

4164. **Maller, J. B., & Tuttle, H. S.** *Social orientation. An approach to the measurement of attitudes toward contemporary social problems. For secondary schools and colleges.* New York: Authors, 1935. Pp. 7.—The subtests are: probable consequences, true or false, news item (social policy), pleasant and unpleasant suggestions, vital factors in civilization, social problems, characteristics of certain groups. A test-retest reliability of .895 was found on 105 high-school seniors. Tentative norms are given.—*R. Goldman* (Clark).

4165. **Meagher, J. F.** *A study of masturbation and the psychosexual life.* Baltimore: William Wood, 1936. Pp. 149. \$2.00.—This book is divided into eleven chapters, the first four of which deal with sex instruction, family and environmental influences, the sexual instinct, and psychosexual development and its various stages. Chapter 5 discusses masturbation as regards psychological considerations, effects of puberty, mechanisms involved and masturbatory equivalents. There follow chapters on the causes and prevalence of masturbation, the harmfulness of the habit, symptoms and sequelae, comparison of masturbation and coitus, and treatment of the habit. The last chapter deals with special factors and masked and substitutive forms of masturbation. A brief summary of conclusions is given, followed by a bibliographical note and author and subject indexes.—*M. H. Erickson* (Eloise Hospital).

4166. **Miller, R. A.** *The relation of reading characteristics to social indexes.* *Amer. J. Sociol.*, 1936, 41, 738-756.—Two small areas in Chicago were studied to determine the differences in the amount and character of the reading of books and periodicals. One area is a middle-class residential district, the other an industrial community largely foreign born or of foreign parentage. The residential community with a higher economic status, better educational background, and greater average maturity in age contrasted sharply with the other community, the reading being far wider and of much higher quality. Reading material was, however, more accessible to the group that read most. The most striking difference was in the comparative circulation of detective,

adventure, and confessional and love periodicals. Heaviest reading occurs in an age span from 15 to 34.—(Courtesy *Amer. J. Sociol.*)

4167. Peixoto, A. *Himenolatria*. (Hymenolatriy.) *Arch. Med. leg. Ident.*, 1934, 4, 105-117.—Of interest to sexual psychology. The human races are divided into two groups, those who do and those who do not attach value to the physical symbol of virginity. The first group attaches moral and social importance to the integrity of the hymen.—(Courtesy *Année psychol.*)

4168. Popenoe, P. *Cooperation in family relations*. *J. Home Econ.*, 1934, 26, 483-486.—The facts of the relationship of dominance and cooperation shown by research are discussed. A number of the methods of solving the difficulties arising are listed.—R. E. Garner (Clark).

4169. Popenoe, P. *Where are the marriageable men?* *Social Forces*, 1935, 14, 257-262.—The article includes both statistics and interpretations.—R. E. Garner (Clark).

4170. Reich, W. *Massenpsychologie des Faschismus. Zur Sexualökonomie der politischen Reaktion und zur proletarischen Sexualpolitik*. (Collective psychology of Fascism. On the sexual economy of the political reaction and of the proletarian sexual politics.) Copenhagen: 1933. Pp. 283.—The acceptance of rule by a dictator on the part of the masses is due to the persistence of infantile sexuality found especially in the families of workmen and *petite bourgeoisie*. Obedience, the acceptance of authority, and compensatory identification with the leader can be explained on this ground.—(Courtesy *Année psychol.*)

4171. Richardson, L. F. *Mathematical psychology of war*. *Nature, Lond.*, 1935, 135, 830-831.—A mathematical formula is given which attempts to express the armament race between opposing nations or groups of nations in terms of a "defense coefficient," of a "fatigue and expense coefficient," and a quantity depending upon dissatisfaction with treaties.—Goldman (Clark).

4172. Rohrbaugh, L. *The background of minor transiency*. *Sch. & Soc.*, 1936, 43, 583-584.—The study concerns the causes of the migrancy of three groups of boys—viz., those registered at a center in Fort Worth, in Philadelphia, and in New York City. Seeking work was the reason offered to account for their transiency by 74.5, 54, and 26% respectively of the members of the above three groups, while the excuse of a broken or discordant home was given by 4, 22, and 40%. Adventure, the other motive with a relatively high incidence, was mentioned by 15, 16, and 4%, respectively, of the registrants. The author believes that work on the adjustment of family relationships may do much to prevent youths from becoming transients.—H. L. Koch (Chicago).

4173. Rouma, G. *Dessins d'indiens quitchouas et aymaras. Le graphisme et l'expression graphique*. (Drawings of the Quechua and Aymara Indians. Writing and graphic expression.) *Sem. univ. Pédag. Univ. libre Brux.*, 1935, 1, 133-147.—From experi-

ments performed in 1911 during an anthropological expedition to the Bolivian high plateau region, the author draws the following conclusions: (1) the free drawings of the adult, illiterate Aymara and Quechua Indians could be mistaken for the free drawings of our normal three- to six-year-old children, as they contain the same hesitations, errors, and stages in drawing; (2) the Indians who applied themselves to the problem passed rapidly from one stage of performance to another, and after a few weeks they were able to reach a stage corresponding to the twelve-year-old child's performance, which seemed to be their upper limit; (3) the Indians showed a marked superiority over the children in animal drawing; and (4) the idea of the top and the bottom of a sheet of paper seemed to be a conventional idea which the illiterate Indian was not able to grasp, as is shown in his lack of orientation in depicting figures when drawing on a horizontal table.—R. Nihard (Liège).

4174. Segers, J. E. *La fonction de globalisation et l'enseignement de l'écriture. Le graphisme et l'expression graphique*. (The globalization function and the teaching of writing. Writing and graphic expression.) *Sem. univ. Pédag. Univ. libre Brux.*, 1935, 1, 51-66.—Segers reviews the use of the whole versus the part method, and gives the results of an experiment performed on a group of students in a public school, ranging in age from 5 years 6 months to 6 years 11 months, of normal intelligence (with two exceptions). When the whole method was used (reproduction by entire phrases), the children at the end of the year were able to write as legibly as those who had gone through the exercises which emphasized the elements in writing.—R. Nihard (Liège).

4175. Simpson, R. M. *Prison stagnation since 1900*. *J. crim. Law Criminol.*, 1936, 26, 870-882.—A study of the history of prison administration (in America) shows that little or no improvement is discernible during the past thirty years in such respects as segregation and classification, intramural employment and trade training, overcrowding, library and religious services, or recreation. "Prison methods of today are stupid and inadequate. There is urgent need of change."—L. Ackerson (Institute for Juvenile Research).

4176. Sullenger, T. E. *Social determinants in juvenile delinquency*. New York: Wiley, 1936. Pp. ix + 412. \$3.50.—A very close association exists between broken homes and delinquency; illegitimate children have a higher expectancy of delinquency than others, while the only child is less likely to become delinquent than others. Except home influences, the greatest determinant in delinquency is misdirected and unsupervised recreation. Other neighborhood determinants are clashes of culture, poor housing, traditional crime codes, poverty, the breakdown of spiritual and social institutions, and general instability of the population. Delinquent neighborhoods are usually adjacent to industrial and commercialized areas where inadequate housing conditions attract families of low socio-economic status. Although investigators are unwilling to recognize

poverty as a cause of delinquency, its presence prevents an adequate analysis of other more positive causal factors. Since social, mental, physical and moral aberrations are at the basis of delinquency, which is itself an index of maladjustment, any preventive and remedial program involves the services of the policewoman, the child guidance clinic and the juvenile court, the last named of which has developed such characteristic trends as the extension of facilities to rural communities, trained personnel, standardization of work, the use of psychiatric clinics, and the development of family courts. Other prophylactics include the development of adult education programs, provision for more family case workers, the organization of boys' clubs, the development of scouting, and an understanding cooperation between all social groups dealing with youth.—*P. S. de Q. Cabot* (Simmons).

4177. **Thompson, S.** Motif-index of folk literature. *Indiana Univ. Stud.*, 1935, 5, Nos. 108-110. Pp. 486.—This volume includes chapters: L, reversal of fortune; M, ordaining the future; N, chance and fate; P, society; Q, rewards and punishments; R, captives and fugitives; S, unnatural cruelty; T, sex; U, the nature of life; V, religion; W, traits of character; X, humor; Z, miscellaneous groups of motifs. Additions and corrections to earlier volumes are included.—*C. M. Louttit* (Indiana).

4178. **Truesdell, L. E.** Crime and mental disease or deficiency, 1933. *U. S. Bur. Census Rep.*, 1936. Pp. 25.—Statistics of mentally diseased and deficient criminals in state and federal prisons, and of persons accused or convicted of crime in state institutions for mentally diseased or defective.—*C. M. Louttit* (Indiana).

4179. **Truesdell, L. E.** Juvenile delinquents in public institutions, 1933. *U. S. Bur. Census Rep.*, 1936. Pp. 62.—Statistics from 145 state or federal institutions for juvenile delinquents, concerning their population as of January 1, 1933, received during the ensuing year.—*C. M. Louttit* (Indiana).

4180. **Van Waters, M.** Problems presented to the federal system of justice by the child offender. *Nat. Comm. Law Observ. Enforc. Publ.*, 1931, No. 6. Pp. 175.—This report deals with the ways in which juvenile offenders against federal laws are dealt with by the federal courts. A statistical study is made of 721 juvenile offenders appearing in these courts. There are 13 brief case histories.—*C. M. Louttit* (Indiana).

4181. **Wielawski, J., & Winiarz, W.** Some observations from three years of studies of psychopathology and genetic psychology in Asia. *Psychanal. Rev.*, 1936, 23, 173-180.—A number of disconnected reports are made about psychopathological observations of the authors in various parts of the world. These deal with blood pressure changes, differential climatic effects on blood pressure, and changes in blood pressure in individuals upon emigration, as well as facts noted on subjects concerning child guidance and neuroses. The authors observe that in the west and east there are different feeding

and child-discipline tactics. Mother attachment is less marked in the east than in the west. Social feelings are less developed in the Orient. The caste system makes many individuals fertile material for the neuroses.—*L. S. Selling* (Recorder's Court, Detroit).

4182. **Witty, P. A., & Jenkins, M. A.** Intra-race testing and negro intelligence. *J. Psychol.*, 1936, 1, 179-192.—In a critical survey of the literature, these writers examine the hypothesis that the American negro is inherently inferior in intelligence (based upon poorer average test performance of negroes than of contiguous whites) in the light of two corollaries: (1) "that negro individuals with the largest amount of white ancestry should stand higher, other things equal, than individuals with total or large amounts of negro ancestry," and (2) "negroes making the highest test scores should be those who emanate from admixtures predominantly white." Preponderant evidence was found to be negative for the first corollary. Corollary 2 appeared untenable when two-thirds of the negro children (Chicago) in the superior group (IQ 120 or above) were shown to have come from "pure" or predominantly negro ancestry. These writers conclude, tentatively, that the differences found for average test scores must be attributed to some factor other than inheritable intelligence.—*J. McV. Hunt* (St. Elizabeth's Hospital).

4183. **Witty, P. A., & Kopel, D.** Heterophoria and reading disability. *J. educ. Psychol.*, 1936, 27, 222-230.—The S's with reading disabilities were 100 children of IQ 80 or above whose reading scores on the Metropolitan Achievement Tests were one semester or more below their grade norms, and 80 normal readers of IQ 80 or above. The effect of visual states on reading achievement was studied by comparing the average attainment of these groups of children in visual functions measured by the Bett tests of visual sensation and perception. All visual defect items considered seemed to play a negligible role in the attainment of good and poor readers. "Nevertheless, normal vision is indubitably essential to maximum attainment."—*A. W. Melton* (Missouri).

4184. **Zilboorg, G.** Differential diagnostic types of suicide. *Arch. Neurol. Psychiat.*, Chicago, 1936, 35, 270-291.—"The problem of early diagnosis of possible suicidal outcomes in patients is of paramount importance in the treatment and prevention of suicidal trends. Such diagnosis is possible on the basis of observations of mental mechanisms and anamnestic data, which become valuable criteria before the suicidal tendency comes out fully in the trend of the patient. Suicides can be differentiated on the basis of the mental mechanisms, this proving that there are many psychologic types of suicide—a point of diagnostic and therapeutic importance."—*D. G. Marquis* (Oxford, England).

[See also abstracts 3805, 3873, 3949, 3967, 4013, 4018, 4033, 4037, 4040, 4041, 4052, 4061, 4067, 4083, 4088, 4091, 4102, 4106, 4108, 4110, 4112, 4117, 4216, 4224, 4239, 4248, 4255, 4262, 4289, 4291, 4296, 4316, 4319, 4323.]

INDUSTRIAL AND PERSONNEL PROBLEMS

4185. **Abrams, R. H.** *Psychic satisfactions of the clergy.* *J. abnorm. soc. Psychol.*, 1936, 30, 423-430.—Sufficient data have been introduced to show something of the types and range of professional activities which bring psychic satisfaction to the clergy. Much of the study is based on biographical sketches given in *Who's Who in America*, which includes the achievements which the ministers deem most important for publication and for which, presumably, they wish to be known and remembered. In spite of restrictions placed by public opinion, and by the ministerial profession itself, upon avenues of self-expression for the men of the cloth, the ecclesiastical leaders have discovered plenty of possibilities for the manifestation of the ego in acceptable form, and have created objective measuring sticks with which professional status and prestige are determined.—*C. H. Johnson* (Boston Psychopathic Hospital).
4186. **American Association of University Women.** *Summaries of studies on the economic status of women.* *U. S. Wom. Bur. Bull.*, 1936, No. 134. Pp. 20.—An annotated bibliography of personnel studies of women in the professions, commerce and industry.—*C. M. Louttit* (Indiana).
4187. **[Anon.]** *The fatigue reaction of noise.* *Industr. Welf.*, 1935, 35-37.—Basal metabolism when typing increased 52% over rest when the room was quiet and 71% when it was noisy. Assembling temperature regulators showed increased production when noise was decreased.—*H. E. Burt* (Ohio State).
4188. **Bills, M. A., & Ward, L. W.** *Testing salesmen of casualty insurance.* *Person. J.*, 1936, 15, 55-58.—Strong's interest analysis blank and Bernreuter's personality inventory were administered to 96 casualty salesmen of an insurance company. A retest was given one year later. Predictability was good for both highest and lowest Strong scores, and also for high Bernreuter scores. Changes of interest scores are not correlated with personality changes, or with age or experience. Men rated as successes had high scores in both tests, and the scores increased on the retest. Failures scored low on both, and the retest showed a decrease.—*L. A. Riggs* (Clark).
4189. **Breeland, A. W.** *Training petroleum workers.* *Mech. Engng, N. Y.*, 1936, 58, 352-354.—"The petroleum industry's training program in the southwest."—*H. A. Copeland* (Cincinnati Employment Center).
4190. **Foa, C.** *La fatica industriale.* (Industrial fatigue.) *Org. sci. Lavoro*, 1935, 10, 314-316.—It is difficult to distinguish normal fatigue from that which is harmful. A scientifically determined working schedule and the proper selection of employees would increase production and diminish accidents.—*H. E. Burt* (Ohio State).
4191. **Gilbreth, L. M.** *The place of skill in industry.* *Mech. Engng, N. Y.*, 1936, 58, 303-304.—Discusses definition, use, conservation and development of skill in industry.—*H. A. Copeland* (Cincinnati Employment Center).
4192. **Hersey, R. B.** *Emotional factors in accidents.* *Person. J.*, 1936, 15, 59-65.—An investigation of large groups of workers has shown that they are "emotionally low" about 20% of the time. Causes for this mood are plant worries, home difficulties, fatigue and lack of sleep, and periodic emotional disturbances. Of some 400 minor accidents reported more than half occurred during low moods. Unduly high spirits, distractive stimuli, and failure to consider the element of safety were also factors of importance. An individual analysis of workers' troubles and a system of reward and penalty judiciously applied are the remedial measures advocated by the author.—*L. A. Riggs* (Clark).
4193. **Husband, R. W.** *Personality traits of salesmen.* *J. Psychol.*, 1936, 1, 223-233.—The personality traits (Wisconsin Scale of Personality Traits) of 64 salesmen were compared with those of 1000 college students. Salesmen appeared reliably less neurotic, more self-confident, more self-sufficient, and somewhat more extraverted than the students. Slight correspondence appeared between efficiency ratings and scores, but the better salesmen tended to be less neurotic and more extraverted.—*J. McV. Hunt* (St. Elizabeth's Hospital).
4194. **Husson, R.** *La sélection psychotechnique des travailleurs et les méthodes statistiques.* (Psychotechnical selection of workers and statistical methods.) *Bull. Statist. gén. Fr.*, 1935, 24, 591-637.—A historical presentation of psychotechnical methods, including mention of the organizations in France using them. The advantages of these methods are presented.—*H. E. Burt* (Ohio State).
4195. **Kornhauser, A. W.** *Overcoming the barriers to industrial testing.* *Personnel*, 1936, 12, 238-242.—*B. Casper* (Tennessee Valley Authority).
4196. **Lamberg, H. S.** *Die Wechselbeziehungen der Farben im Reklame-, Verkehrs- und Signalwesen.* (Variations in the use of colors in advertising, traffic, and signal systems.) *Industr. Psychotech.*, 1936, 13, 57-59.—The confusion which results from variations in colors most commonly used in traffic and signal systems has been neglected. Previous investigations have been limited to the use of colors within a traffic system, or a signal system, or an advertising system. In the future the effect of variations in the use of common colors as between systems should be determined.—*B. Casper* (Tennessee Valley Authority).
4197. **McMurry, R. N.** *Psychology and the accident-prone employee.* *Personnel*, 1936, 12, 242-246.—*B. Casper* (Tennessee Valley Authority).
4198. **Milkiewicz, I. W.** *Richtige und gerechte Arbeitszeiten.* (Correct and equitable work periods.) *Industr. Psychotech.*, 1936, 13, 53-56.—The results of a critical study of the usual methods of setting time standards (estimates, time studies, variation from a minimum, etc.) in a delicate mechanical operation are reported.—*B. Casper* (Tennessee Valley Authority).
4199. **Moede, W.** *Die Leistungsprobe in der Eignungsuntersuchung.* (The performance test in

the study of the individual.) *Industr. Psychotech.*, 1936, 13, 1-13.—Performance tests yield especially fruitful results with all vocational selection and vocational guidance studies of the individual which cover the total personality, including its performance capacity, its balance, and its maturity. The significance of these tests is brought out by a comparison with tests of character, structure, and totality, as well as with pure observation, impressions and interpretations. Characterology and typology are parts of the field of psychotechnology.—*B. Casper* (Tennessee Valley Authority).

4200. Morton, N. W. **Occupational abilities: a study of unemployed men.** London; New York: Oxford Univ. Press, 1935. Pp. xxiii + 279. 10/6; \$3.00.—An account is given of a comprehensive research carried out upon unemployed men in and around Montreal. The tests used are fully described and their results analyzed and presented in detail. Where the material admits it the author uses statistical methods of analysis. The great importance of the determination of suitable criteria of job satisfaction and competency is stressed, as is the need to follow up investigations of capacity with investigations of the conditions under which capacity is used in daily life.—*F. C. Bartlett* (Cambridge, England).

4201. Ottow, I. M. **Untersuchungen über die Vergleichbarkeit der Unfallstatistik.** (Studies concerning the comparability of accident statistics.) *Industr. Psychotech.*, 1936, 13, 20-32.—Exact comparison presupposes agreement between the bases of the comparison. A large number of factors must be considered in the grouping of statistics for use in the field of accident prevention. The factors which are involved in the comparability of accident statistics are described. Techniques which should be introduced to bring a variety of circumstances into agreement are indicated.—*B. Casper* (Tennessee Valley Authority).

4202. Rogers, F. R. **Strength tests and their uses.** *Person. J.*, 1936, 15, 26-30.—*L. A. Riggs* (Clark).

4203. Rosenstein, J. L. **Psychology of human relations for executives.** New York: McGraw-Hill 1936. Pp. xiii + 284. \$2.50.—The purpose is to give a basis for study and analysis of human behavior for use by leaders in industry. The mutual relations of management and workman are considered from the viewpoint of applied objective psychology. The "we" aspect of the management-man relation is all-important. Analogies are taken from industry and from general and clinical psychology. The concepts of identification, reaction biography, and reaction organization are used as tools for interpreting behavior. There are 8 parts and 47 chapters, concluded with practical problems for group study, a psychological program for industry, and 102 excerpts, of which the following is typical: "Regardless of what a person does, learn why he does it. The act is only the end product." Maladjustment is learned behavior. When labor and industry become identified in unity of purpose labor difficulties will disappear.—*R. M. Bellows* (Occupational Research Program).

4204. Stevens, S. N. **The applications of psychology to the problems of business and industry.** *Personnel*, 1936, 12, 227-229.—*B. Casper* (Tennessee Valley Authority).

4205. Uhrbrock, R. S. **Mental alertness tests as aids in selecting employees.** *Personnel*, 1936, 12, 229-237.—Tests useful in selecting among applicants for factory positions, clerical positions, and applicants with college training are briefly described.—*B. Casper* (Tennessee Valley Authority).

4206. Utzschneider, G. **Versuche über das Erkennen der Richtung akustischer Kraftfahrzeugsignale im Stadtverkehr vonseiten Normalhöriger und Einseitigschwerhöriger.** (Studies on the recognition of the direction of acoustic motor-vehicle signals in city traffic on the part of normal hearers and unilaterally hard-of-hearing persons.) *Dusseldorf: Nolte*, 1935. Pp. 13.—*R. R. Willoughby* (Clark).

4207. Viteles, M. S. **How technological changes affect employees.** *Mech. Engng. N. Y.*, 1936, 58, 302-303.—Some employees find repetitive work not monotonous. Industry still demands skill, and even more the basic skills. Morale of employees is subject to strain.—*H. A. Copeland* (Cincinnati Employment Center).

4208. Yoder, D. **The place of statistical analysis in modern personnel administration.** *Personnel*, 1936, 12, 247-250.—*B. Casper* (Tennessee Valley Authority).

[See also abstracts 3969, 3970, 3971, 3993, 3994, 3996, 4116, 4229, 4253.]

EDUCATIONAL PSYCHOLOGY

4209. Abell, E. L. **Variability in college students.** *J. higher Educ.*, 1936, 7, 267-270.—A study of variability based on objective tests over a period of twelve years, involving 66 classes enrolling 2456 students, the total number of objective tests 245, indicates a ratio of variability well above that indicated by Wechsler for biological and psychological traits. Measures of variability employed were range and standard deviation. The study shows that the range covered by typical classes of college students is not only much greater than is usually found in biological measures in unselected groups but is much greater than commonly assumed to exist in so-called selected groups of college students. Secondary findings, somewhat questionable because of the small number of cases, indicate that variability decreases rapidly under short periods of college training; that large classes are more heterogeneous; that men contribute more low scores; and that "poor students cover a wider range in individual performance than good students."—*R. A. Brotemarkle* (Pennsylvania).

4210. Altman, A. L., & Hartmann, G. W. **The relative difficulty of psychology and other college subjects.** *Psychol. Exch.*, 1936, 4, 126-128.—Introductory psychology grades of students in the schools of education, science (pre-medical only) and engineering were compared with the semester average for the corresponding semester. To education students,

Psychology 2 is a "hard" subject. To pre-medical students, Psychology 2 is one of the easier studies. To engineering students, Psychology 1 is a "hard" subject although to a lesser degree than was the case with the education group.—*N. Goldman* (Worcester State Hospital).

4211. *Amsden, R.* The summer camp as a behavior clinic. *Ment. Hyg., N. Y.*, 1936, 20, 262-268.—The guidance techniques used in a summer camp specializing as a behavior clinic are described in some detail. 127 boys from the Detroit department of special education spent three or more weeks at the camp during 1935. The IQ range was 57-139. The majority of the boys tested between 70 and 85. The techniques used are based primarily on the assumption that the primary "wants" of the individual, when satisfied, result in behavior. Cases are quoted illustrating both direct counseling and indirect plus direct counseling. Conventional controls are also used. Group approval and disapproval are also of value. During the summer of 1934 over 50% of the boys had records of delinquency. During the school year 1934-1935 not one of the group was in trouble. The necessity for further study and experimentation in the field of camping is indicated.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

4212. [Anon.] New Zealand Council for Educational Research. First annual report, 1934-1935. Wellington, New Zealand: New Zealand Council for Educational Research, 1935. Pp. 36.—*R. R. Wiloughby* (Clark).

4213. [Anon.] *Schulause und Lebensleistung*. (School selection and accomplishment in life.) *Industr. Psychotech.*, 1936, 13, 59-63.—The relation between school performance of students and their accomplishment later in life was investigated by G. Just, of Greifswald, with official aid from the German government. The first results of this study are reported in a short volume entitled *Schulause und Lebensleistung*, published by S. Hirzel, Leipzig.—*B. Casper* (Tennessee Valley Authority).

4214. *Atkins, B. E., & Atkins, R. E.* A study of the honesty of prospective teachers. *Elem. Sch. J.*, 1936, 36, 595-603.—The writers present some data indicating that the tendency to cheat by altering one's answers to a self-correcting test may be affected somewhat by several factors. Thus cheating incidence is smaller among "intelligent and energetic students," and among those who have received ethical instruction pertaining specifically to the test procedure employed. Relatively potent influences in increasing the incidence and frequency of cheating are "ease and dishonesty" and fear of failure on the test. The writers believe that honesty is not a unit characteristic.—*P. A. Witty* (Northwestern).

4215. *Ballard, P. B.* Geometry: its value and its methods. *Brit. J. educ. Psychol.*, 1936, 6, 23-42.—Geometry, like every other science, has its roots in concrete human experience. Its subject matter is space, and the science cannot be developed without keeping in constant touch with its subject matter.

The cognitive processes involved in learning it are the same, the possibilities of error are the same as in other sciences, and none of the resources available for the teaching of other sciences should be withheld from the teaching of geometry. It is urged that geometry be taught as a branch of physics rather than of metaphysics, as in the past, and that thereby it be made suitable for systematic study in the elementary schools.—*K. M. Cowdery* (Stanford).

4216. *Barham, T. C., Jr.* How much thought lies behind that vote? *Sch. & Soc.*, 1936, 43, 718-720.—High school students (127 in number) taking a course on the problems of democracy were asked to tell which presidential candidate they intended to vote for and then to indicate the reasons for their choice. 77 different reasons were offered by the group, the average number given by a student being 2.5. The reasons presented revealed much outright misinformation and much ignorance. They tended, even when legitimate, to be bound closely to the party slogans. The educational implications of the results are considered.—*H. L. Koch* (Chicago).

4217. *Barr, A. S.* Our unintegrated courses in professional education. *J. educ. Res.*, 1936, 29, 708-710.—*S. W. Fernberger* (Pennsylvania).

4218. *Barr, A. S., & Jayne, C. D.* The use of sound recording equipment in the study and improvement of teaching. *J. exp. Educ.*, 1936, 4, 279-286.—The report is devoted largely to a description of equipment by means of which satisfactory sound records can be made of ordinary class work. Class activities are directly recorded on a metallic disk and the record may be played back immediately. A wiring diagram of the sound recording instrument is included in the report.—*H. W. Karn* (Pittsburgh).

4219. *Bogen, H.* *Pädagogische Psychologie der Beratung*. (Educational psychology of vocational guidance.) *Z. pädag. Psychol.*, 1935, 36, 133-149.—Bogen's purpose is to make his experience in the free vocational guidance service for youth useful for teachers. The function of vocational guidance is to replace subjective tendencies by supra-individual experience and responsibility, thus realizing the unitary inner attitude necessary for biological folk totalitarianism.—*M. E. Morse* (Baltimore).

4220. *Brown, F. J.* Character education—past and present. *Sch. & Soc.*, 1936, 43, 585-589.—The author gives an excellent concise summary and history of character education methods and procedures.—*H. L. Koch* (Chicago).

4221. *Brownell, W. A., & Watson, B.* The comparative worth of two diagnostic techniques in arithmetic. *J. educ. Res.*, 1936, 29, 664-676.—Analysis of 245 records of children in the 5th-7th grades of seven schools in Nashville, Tenn., on a modification of the Brueckner diagnostic test in the addition of fractions indicates that personal interview and the case method with individual children are more satisfactory than the test method for diagnostic purposes.—*S. W. Fernberger* (Pennsylvania).

4222. Buckingham, B. R., & Dolch, E. W. Combined word list. Boston: Ginn, 1936. Pp. 185. \$1.50.—R. R. Willoughby (Clark).

4223. Buyse, R. *L'expérimentation en pédagogie*. (Experimentation in pedagogy.) Brussels: Lamertin, 1935. Pp. 468. 7 fr. belg.—The author (1) discusses the place of didactics in pedagogy, the sources and main currents of pedagogical methodology, and the general conditions and difficulties to be found in experimental pedagogy; (2) he discusses more specifically the procedures of pedagogical experimentation, including the principles of statistics bearing on the subject; and (3) he illustrates with examples the uses of the comparative and analytical methods.—R. Nihard (Liège).

4224. Cole, L. A successful experiment in the teaching of handwriting by analytic methods. *J. Psychol.*, 1936, 1, 209-222.—A method of teaching handwriting to elementary school pupils is described which affords diagnosis of each individual's defects, self-analysis for the pupil, and individualized drill. A trial has shown it to be more effective than the customary exercises.—J. McV. Hunt (St. Elizabeth's Hospital).

4225. Corey, S. M. Students' university choices. *J. higher Educ.*, 1936, 7, 207-211.—A study to determine why students select a particular college was based on reasons given by an inquiry group of 143 freshmen in Teachers College, University of Nebraska. The following items were then checked by 357 freshmen in arts and science: advice of family, friends, high school teachers and administrators, proximity, economy, get courses wanted, and prestige. The group was divided into 95 who lived at Lincoln and 262 living elsewhere; and sub-divided into those scoring in the lowest one-fourth, the middle two-fourths, and the highest one-fourth on the Ohio State Psychological Examination. Marked differences were observed between the groups. Twice as many students whose homes were away from the university city were influenced by their high school teachers and administrators as those living in Lincoln. This may be explained partly by the fact that the high schools outside of Lincoln are small, and also by the fact that 60% of the teachers outside of Lincoln, in contrast to 30% in Lincoln, attended the university. Prestige of the university influences individuals from a distance more than those in the university city. Students standing in the highest one-fourth of the psychological examination in both groups are more self-dependent. A list of items added by the students does not reveal significant influences. "There was little indication of careful, intelligent appraisal of the opportunities and facilities provided by available, similar institutions."—R. A. Brotmarkle (Pennsylvania).

4226. Cozens, F. W. Achievement scales in physical education activities for college men. Philadelphia: Lea & Febiger, 1936. Pp. 118. \$2.50.—R. R. Willoughby (Clark).

4227. Cozens, F. W., & others. Physical education achievement scales, for boys in secondary schools.

New York, Barnes, 1936. Pp. 161. \$1.60.—R. R. Willoughby (Clark).

4228. Edelmann, E. *Leistungsnoten und Urteilsfindung nach Konstanz und Schwankung im englischen Schulwesen*. (Deutsche Bearbeitung des Hartog-Rhodes-Berichtes auf der zweiten internationalen Konferenz in Folkestone, 1935.) (Variability of marking in English public schools. German review of the Hartog-Rhodes report at the second international conference at Folkestone, 1935.) *Industr. Psychotech.*, 1936, 13, 33-45.—In 1931 an international institute for the study of examination results was founded at Eastbourne. P. Hartog and E. C. Rhodes published the first results. It appears that in all forms of examination chance still plays a large role in the judgments of the examiner. The authors investigate the possibility of still further reducing this chance element. They develop formulae for computing variability of examiners' opinions of examinees.—B. Casper (Tennessee Valley Authority).

4229. Engelmann, W. *Die psychologische Eignungsuntersuchung in der Berufsberatung*. (Psychological studies of the individual in vocational guidance.) *Industr. Psychotech.*, 1936, 13, 13-19.—The hypotheses, the limitation, and the status of psychological studies of the individual in the work of vocational guidance are described.—B. Casper (Tennessee Valley Authority).

4230. Gates, A. L., & Bond, G. L. Reading readiness. *Teach. Coll. Rec.*, 1936, 37, 679-685.—A partial report and discussion of a study of four classes of children who were given instruction in reading soon after entering the first grade. The results of more than 100 tests and ratings on reading readiness were obtained soon after the pupils entered school.—J. M. Stalnaker (Chicago).

4231. Gerberich, J. R., & Warner, K. O. Relative instructional efficiencies of the lecture and discussion methods in a university course in American national government. *J. educ. Res.*, 1936, 29, 574-579.—Results from an experiment at the University of Arkansas performed in 1932-1934. Two sections of 28 students each were taught one by the lecture and the other by the discussion method. Achievement tests were given before and after instruction. Results were also taken for each member on a radicalism-conservatism scale. The author found only small and unreliable differences in final achievement for the two groups. When these groups are divided, however, there is indication of superiority of the above-average students in the lecture method and of the below-average students in the discussion method. The results also indicated a marked difference favoring a more liberal attitude on the part of the lecture students.—S. W. Fernberger (Pennsylvania).

4232. Gooden, O. T. Testing in the college. *J. higher Educ.*, 1936, 7, 191-195.—A progressive philosophy of college testing should have as its main purpose revealing "to the student and to his advisers both the quality and the quantity of the student's educational possessions." Of secondary importance is the use of tests as a basis for awarding credit and

distinguishing between several qualities of scholarship. Discussing the objectives of a testing program, experience at Hendrix College indicates that "co-operative testing programs are of inestimable value, but they are necessarily limited to certain common fundamentals, and they must be supplemented as extensively as possible by testing devices prepared locally with reference to the problems and objectives of each particular school."—R. A. Brotemarkle (Pennsylvania).

4233. Gray, H. A. Improved learning aids and future educational reorganization. *Sch. & Soc.*, 1936, 43, 599-602.—H. L. Koch (Chicago).

4234. Grossnickle, F. E. Transfer of knowledge of multiplication facts to their use in long division. *J. educ. Res.*, 1936, 29, 677-685.—Two tests were given to 1075 students in grades 5-15 inclusive; the first contained 50 multiplication facts arranged in different orders, followed by the same facts used in long division when the divisor was a one-digit number. The results indicate that there are over twice as many errors in the division test as in the multiplication test, but the errors are sporadic, inconstant and therefore apparently due to chance.—S. W. Fernberger (Pennsylvania).

4235. Hamley, H. R. The place of psychology in the training of teachers. *Brit. J. educ. Psychol.*, 1936, 6, 1-8.—Requests to young teachers and students in training for "well reasoned criticisms and suggestions" on the course in educational psychology during their post-graduate year resulted in replies which indicated that some had been interested because it led to self-analysis, others objected because it led to morbid introspection; some were attracted because it opened a new field of knowledge, others were repelled because they were compelled to master a new technical language and a new range of ideas; the scientific approach appealed to some, others complained that the approach was not sufficiently scientific. The constructive suggestions called for more adequate consideration of (1) the nature, needs, and development of the normal child, (2) the psychology of school life and work, and (3) the psychology of abnormality in ability and conduct.—K. M. Cowdery (Stanford).

4236. Harap, H., & Mapes, C. E. The learning of decimals in an arithmetic activity program. *J. educ. Res.*, 1936, 29, 686-693.—Study of a class of 39 pupils in Cleveland, Ohio, who were taught decimals through such activities as school banking and the like—13 units in all. The authors indicate that the pupils learned 96% of the 27 basic processes involved in decimals by these methods. Mere repetition does not seem to be an important factor in mastery of any process.—S. W. Fernberger (Pennsylvania).

4237. Hartog, P., & Rhodes, E. C. An examination of examinations. New York: Macmillan, 1936. Pp. 81. \$.35.—(Not seen).

4238. Hill, J. C. The teacher in training. London: Allen & Unwin, 1935. Pp. 160. 5/—The first

part, called "The Teacher in Training," deals with class management, mind and body, the dream mind, the child mind, creative work, and the purpose of education. The second part offers suggestions on the teaching of the usual school subjects. Appendices discuss voice production and left-handedness, and present numerous quotations on the creative mind.—F. C. Bartlett (Cambridge, England).

4239. Hische, W. Auslese durch die Gemeinschaft von Mehrzahlgebildeten und ihre Bedeutung für die wirtschaftliche Arbeit. (Selection through community camps and its significance for management.) *Industr. Psychotech.*, 1936, 13, 45-53.—The manner in which personality is developed and fixed by the type of community education is shown. A demonstration of the psychological causes of the occurrence of "self-selection" is followed by a statement of the significance for management of the educational and selection process.—B. Casper (Tennessee Valley Authority).

4240. Marshall, M. V. The life-career motive and its effect on college work. *J. educ. Res.*, 1936, 29, 596-598.—Study of equated college grades of 91 students, of whom 36 had chosen their life work before entering college. The students who made their vocational choices before entering college made a higher average grade than the other students. This is particularly true of subjects which are related to the students' vocational choices.—S. W. Fernberger (Pennsylvania).

4241. McCall, W. A. How wide is the gap between principle and practice? *Teach. Coll. Rec.*, 1936, 37, 603-606.—"We cannot hope to produce good teachers by providing them with general principles of teaching and trusting them somehow to translate these into effective procedures." The use of daily, informal, objectively scorable, yes-no tests is advocated.—J. M. Stalnaker (Chicago).

4242. McLaughlin, K. L. Selected references on kindergarten-primary education. *Elem. Sch. J.*, 1936, 36, 619-626.—Listed and briefly annotated by the writer are 45 titles relating to general educational aspects; organization, techniques, and curriculum; and investigations and experimental studies in the area indicated.—P. A. Witty (Northwestern).

4243. Mellan, I. Teaching and educational inventions. *J. exp. Educ.*, 1936, 4, 291-300.—A list of educational inventions obtained from the United States Patent Office and concerned for the most part with teaching and educational devices, appliances, apparatus, etc. It is the author's belief that an intelligent study of these inventions is necessary for all educators. The present report contains the title of the invention, the patent number and a key by means of which an approximate time when the patent was issued can be determined. Copies of the patent specifications may be obtained from the Commissioner of Patents, Washington, D. C.—H. W. Karn (Pittsburgh).

4244. Mills, H. C. What do high school students know about how to study? *J. educ. Res.*, 1936, 29,

580-584.—Results from an objective test (multiple choice or true-false) on study methods given at the University of Buffalo. The study includes the results of 163 cases, mostly from the last two years of high school. The introduction of a course in study methods somewhat increases the test scores.—S. W. Fernberger (Pennsylvania).

4245. Pear, T. H. The desirability of teaching school children the technique of discussion. *Brit. J. educ. Psychol.*, 1936, 6, 9-22.—The author points out that psychologists have made too little analysis of the interest and psychological significance of conversation; he contends that schools could improve the social ability of pupils by training them in discussion, not so formal as in debating, of the many phases of topics of current interest. The three-part form of organization (chairman, leader of discussion, and summer-up) as the platform element of a discussion is advocated.—K. M. Cowdery (Stanford).

4246. Pintner, R., Ryan, J. J., Aleck, A. A., West, P. V., Crow, L. D., & Smith, S. An outline of educational psychology. (Rev. ed.) New York: Barnes & Noble, 1935. Pp. 226. \$.75.—This volume in the College Outline Series presents in 15 chapters the materials deemed necessary for an understanding of the "practical and important essentials" of educational psychology. The chapters are grouped under five general sectional headings: human equipment and behavior; the learning process; tests and measurements; mental hygiene and character education; and the psychology of school subjects. Selected references, a general bibliography and an index are included.—L. A. Averill (Worcester Teachers College).

4247. Pressey, S. L. Outstanding problems of "emergency junior college" students. *Sch. & Soc.*, 1936, 43, 743-747.—A questionnaire concerning educational, vocational, and recreational experiences and problems was sent to those registered in each emergency junior college center in Ohio. To this questionnaire a 50% return was received. Most of the responding individuals said they wanted more education, but most also were not clear as to why they wanted it. Their vocational plans tended to be vague and based on little serious consideration. While almost all of the students had belonged to some organization in high school, a large number were now without affiliations of this sort. Although most had indulged in some active physical sport while in school, a large percentage had ceased such physical recreation. Reading interests tended to be very conventional. The group, as a whole, lacked an understanding of their own communities and the possibilities there for self-development, a vocation, and service.—H. L. Koch (Chicago).

4248. Punke, H. H. Recent countryward migration and the country school. *J. educ. Res.*, 1936, 29, 599-602.—A study of the situation in Jackson County, Illinois, includes such factors as school enrolment, families migrating, contacts and housing in community, and vocational character of the migrants.—S. W. Fernberger (Pennsylvania).

4249. Pupp, R. Gestalt und Beziehung im Anschluss an die österreichische Schule. (Configuration and relationship in connection with the Austrian school.) München: Salesianischen Offizin, 1932. Pp. 97.—R. R. Willoughby (Clark).

4250. Raphael, T. Four years of student mental-hygiene work at the University of Michigan. *Ment. Hyg.*, N. Y., 1936, 20, 218-231.—The general procedure followed by this mental-hygiene unit is outlined. Of the class of 1934, three and a half times as many men as women were patients. At entrance 77.8% were rated as in excellent or satisfactory physical status. Of referred patients, 77.9% came through the health-service staff and 12.8% were self-referred. Various outside sources accounted for the remaining 9.1% referred. Close contact is maintained with all student-service agencies. Findings made from experience with the class of 1934 are analyzed. As to scholastic aptitude, this group of patients approximated closely the general distribution of the entire class. A table showing diagnoses of mental status of the group is given. Other tables list factors, subjective and objective, which were considered of primary precipitating force in the various presenting problems. This group showed up well as to both scholastic and extra-curricular achievements. The group was considered to be little different from the "run of the mine," as they came out "reasonably well" at the completion of the four-year course.—H. S. Clapp (Grasslands Hospital, Valhalla, N. Y.).

4251. Richard, Brother. The relationship between freshman marks and study environment. *J. educ. Res.*, 1936, 29, 589-592.—Study of scholastic achievement at St. Mary's College, Minnesota. A grade index was obtained by expressing quantitatively the usual letter grades. The results indicate the superiority of the supervised study hall and of resident over non-resident students.—S. W. Fernberger (Pennsylvania).

4252. Sackett, E. B. The tale of a tester. *Sch. & Soc.*, 1936, 43, 725-729.—The author gives an informal account of his five years' experience with standard tests in a school system in which he acted as director of research. He concludes as follows: "Standard tests are a useful tool in education. Harm is possible, as it is with the automobile. But so is good. With unintelligent supervision and teaching, the possibility of harm becomes a probability. But under such guidance the poor child is cast upon the mercies of Providence anyway, and he perhaps is no worse off being drilled for standard tests than being drilled for something else."—H. L. Koch (Chicago).

4253. Scanga, G. [Ed.] Orientamento professionale: bollettino d'informazioni. (Professional orientation: information bulletin.) Rome: Istituto Tecnico Industriale. Vol. 1, No. 1, 1935.—R. R. Willoughby (Clark).

4254. Simon, D. L. Personal reasons for the dismissal of teachers in smaller schools. *J. educ. Res.*, 1936, 29, 585-588.—Results of interviews with 168 county and town superintendents of Indiana indicate 48 reasons for dismissal of teachers, of which weakness

in discipline is by far the most frequent occurrence.—*S. W. Fernberger* (Pennsylvania).

4255. Smith, C. A., & Jensen, M. R. Educational, psychological, and physiological factors in reading readiness. I. *Elem. Sch. J.*, 1936, 36, 583-594.—Reported in this limited review of the literature relating to reading readiness are some of the studies which portray typical first-grade reading practices, and the bearing of mental ability and language development upon reading acquisitions. A bibliography of 38 titles is appended.—*P. A. Witty* (Northwestern).

4256. Steckel, M. L. Conference technique in vocational guidance. *Sch. & Soc.*, 1936, 43, 739-740.—*H. L. Koch* (Chicago).

4257. Tuttle, H. S. How colleges cultivate social ideals. *Sch. & Soc.*, 1936, 43, 738-739.—A summary and analysis are given of the reports received from 275 colleges regarding the means they use to cultivate social ideals on the part of their students. There appears to be little uniformity of practice and little agreement with respect to the methods which are most effective. More of the institutions reported the use of courses in the social sciences than any other tool. Counseling, extra-curricular activities, and field projects of an altruistic sort were among the methods most frequently mentioned.—*H. L. Koch* (Chicago).

4258. Washburne, C. The values, limitations, and applications of the findings of the Committee of Seven. *J. educ. Res.*, 1936, 29, 694-707.—Analysis of the findings of the report of a committee on co-operative research in arithmetic, which led to the formulation of a basic curriculum in this subject. A bibliography of 24 titles of studies growing out of the committee's activities is analyzed.—*S. W. Fernberger* (Pennsylvania).

4259. Wells, F. L. Psychology in medical education. *Arch. Neurol. Psychiat.*, Chicago, 1936, 35, 631-638.—Psychological instruction in the medical curriculum should give the student knowledge of the means available for understanding the mental capacities of individual human beings; he should know their uses and limitations and he should know when and how to avail himself of them. He should also understand something of the role which his professional pursuit plays in his own personality trends, and the subtler as well as cruder temptations to exploit the patient in his own interest which come to everyone from whom another seeks help.—*D. G. Marquis* (Oxford, England).

4260. Wile, I. S. Integration of the child—the goal of the educational program. *Ment. Hyg.*, N. Y., 1936, 20, 249-261.—A practical program for integration should embody real opportunities for living in human relationships. The act of living must be in terms of individual organization. The classroom patterns should be as diverse as those found in the world outside of the school. In education there is a social and individual emphasis. Individual factors are considered of greater importance to mental hygiene. The educational program must see the

child as a whole and must make the right adjustments in personality.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

4261. Williamson, E. G. The role of guidance in educational methodology. *J. higher Educ.*, 1936, 7, 184-190.—The author suggests educational guidance as an objective means of bringing about "individualization of education." Four steps in guidance include: development of diagnostic instruments with emphasis upon the clinical method; diagnosis with skilful and continuous application of results obtained by professionally trained workers; prognosis with interpretation stated in alternative terms of educational and vocational goals; and continuation of counseling checked by means of periodic testing. This methodology should produce results necessitating changes in curricular and educational procedures.—*R. A. Brotemarkle* (Pennsylvania).

4262. Young, C. W. Scholarship and social adjustment. *Sch. & Soc.*, 1936, 43, 607-608.—The author, in order to check the theory that the scholastically brilliant are socially inept, procured from one class of Colgate University freshmen at the end of their freshman year in the college a rating on each classmate with respect to whom acquaintance was sufficient to justify a judgment of degree of liking or disliking. It is concluded that there exists no appreciable relationship between scholarship and social adjustment judged in terms of the following criteria: number of classmates known by name, number of classmates to whom known by name, number of classmates by whom rated, average degree of liking expressed for others, and average rating received from others.—*H. L. Koch* (Chicago).

4263. Young, C. W., & Estabrooks, G. H. Young-Estabrooks scale for measuring studiousness by means of the Strong Vocational Interest Blank for Men. Stanford University, Calif.: Stanford Univ. Press, 1936. \$1.00.—The purpose of the scale is to secure a measure of certain factors which contribute to scholastic achievement that are not measured by intelligence tests. Using the studiousness index (relation of school grades to mental ability) as a criterion, the Interest Blank was found to offer the most practical available measure of studiousness. The scale appears to be applicable to women as well as men and to high school and college groups. Odd-even reliability (295 college students) was found to be .66. The norms given are "decidedly tentative." A brief sketch of the studious personality is given.—*R. Goldman* (Clark).

[See also abstracts 3907, 4093, 4116, 4154, 4160, 4183, 4270, 4272, 4273.]

BIOMETRY AND STATISTICS

4264. Conrad, H. S., & Martin, G. B. The index of forecasting efficiency, for the case of a "true" criterion. *J. exp. Educ.*, 1936, 4, 231-244.—A low correlation between a test and a criterion may be due to inadequacies of the test, inadequacies of the criterion, or both. It is frequently desirable to know

the index of forecasting efficiency of a test, after correction for random errors of measurement in the criterion. In the present report a formula is given by which such a correction may be effected; in addition, a table is presented of values of E_{cor} (the corrected index of forecasting efficiency), for the various values of r_{ca} (correlation between test and criterion) and of r_{cra} (reliability of criterion).—H. W. Karn (Pittsburgh).

4265. Cureton, E. E. On certain estimated correlation functions and their standard errors. *J. exp. Educ.*, 1936, 4, 252-264.—A detailed discussion on the following topics: (1) comparable tests versus experimental independence; (2) estimated correlation functions of comparable tests; (3) the case of experimental independence. Pertinent statistical formulae and their derivations are given.—H. W. Karn (Pittsburgh).

4266. Kolbe, L. E., & Edgerton, H. A. A table for computing biserial r . *J. exp. Educ.*, 1936, 4, 245-251.—The table is arranged to give r correctly to two decimals without interpolation. To enter the table it is necessary to know the value of p (the proportion of the total number of observations in the group from which M_i is computed), and of $\frac{(M_i - \bar{M}_i)}{\sigma_i}$ where M_i = the mean of the continuous variable for one category of the dichotomized variable, \bar{M}_i = the mean of the continuous variable, and σ_i = the standard deviation of the continuous variable.—H. W. Karn (Pittsburgh).

4267. Margineanu, N. Sur l'analyse des "facteurs" psychologiques. (The analysis of psychological "factors." *Année psychol.*, 1934, 35, 50-84.—The fundamental equations on which factor analysis is based are discussed. The methods and theories of Spearman, Kelley, and Thurstone are compared and the principal objections to factor analysis are discussed. An appendix lists the steps for Spearman's tetrad-difference method and Thurstone's method. There is a bibliography of 120 titles.—R. Goldman (Clark).

4268. Richardson, M. W. Notes on the rationale of item analysis. *Psychometrika*, 1936, 1, 69-76.—A formula is derived for the item-test correlation and an empirical verification of it is also given. This formula shows that in a test of uniform difficulty, the correlation of an item with the test is proportional to the average correlation of that item with each item of the test. The rejection of items whose correlations with the test are relatively low raises the average intercorrelation of the remaining items and, if the number of items is held constant, also raises the reliability of the test. Formulae are derived for obtaining the average item intercorrelation and the average item-test correlation coefficient from the reliability coefficient. For tests of homogeneous difficulty and constant length, the true variance is proportional to the average item intercorrelation.—A. K. Kurtz (Psychometric Society).

4269. Rosander, A. C. The standard error of a mean rank order. *J. educ. Psychol.*, 1936, 27, 193-

196.—The author derives the following formula for the standard error of the mean rank order, such as obtained from judges in social attitude scale construction: $\sigma_e = \sigma_x \sqrt{1 - \rho_{xy}}$, where ρ_{xy} is the rank order correlation between mean rank orders obtained from two groups of judges, and σ_x is the standard deviation of either group of mean rank orders (the average of the standard deviations obtained from the two groups of judges may be used). It is further shown that the mean deviation of a series of ranks from the true rank order equals $\sigma_x \sqrt{2}$.—A. W. Melton (Missouri).

4270. Scates, D. E. The general nature and applicability of index numbers for education. *J. exp. Educ.*, 1936, 4, 265-278.—The index-number technique affords a well developed, carefully examined, and versatile procedure for combining weighted elements into a composite variable. While it owes its origin to the field of economics, it is general in its application, being less restricted in a number of ways than is multiple regression. It has been used in education to reflect variations in the cost of supplies and buildings, and to indicate different levels of merit. Certain points that should receive attention in the use of index numbers are: the choice of elements, the weighting of these elements, their specific definition and units of measurement, the sampling of the source field, the form of the index number used, and the interpretation of the results. It is the author's belief that the index-number technique should receive a wider recognition than has been given it in the past.—H. W. Karn (Pittsburgh).

4271. Stephenson, W. A new application of correlation to averages. *Brit. J. educ. Psychol.*, 1936, 6, 43-57.—An inverted form of the Spearman two-factor theorem is proposed as a basis for estimating the extent to which children tend to conform to "types" in their relative preferences for school subjects. The method involves correlations between persons rather than between tests, with "populations" of tests or items rather than of persons. Application of the method segregates children into two groups or types, those who prefer scientific subjects and those who prefer linguistic ones. The two "factors" or types adequately describe the data and are similar for both boys and girls, although the incidences are different.—K. M. Cowdery (Stanford).

4272. Swineford, F. A note on the calculation of chronological ages. *J. exp. Educ.*, 1936, 4, 301-302.—The author presents a single table and formulae by means of which chronological ages as of a given date can be simply calculated. A concrete example illustrating the use of the technique is given.—H. W. Karn (Pittsburgh).

4273. Walker, H. M. Needed improvements in the teaching of statistics. *Teach. Coll. Rec.*, 1936, 37, 607-617.—College courses in statistics should be organized on three levels: (1) for highly selected students with a mathematical background; (2) for students who plan to do statistical research; (3) for students who want a general appreciation course. Statistics teaching may be improved by simplifying

the statistical vocabulary, stressing the interdependence of statistical content, clarifying concepts in part by the use of physical models, and increasing the amount of laboratory work. The relationship of statistics to logic must be stressed.—*J. M. Stalnaker* (Chicago).

[See also abstracts 3816, 4004, 4171, 4274, 4278, 4283, 4284, 4308.]

MENTAL TESTS

4274. Bartlett, M. S. Estimation of general ability. *Nature, Lond.*, 1935, 135, 71.—A note on the value of the terminology which distinguishes *g*, *g'*, *G*, and *i*.—*R. Goldman* (Clark).

4275. Davies, J. E. The relative effects of two kinds of provision for response upon the validity of an artificial language test. *J. educ. Res.*, 1936, 29, 593-595.—Results from 67 Adams State Teachers College freshmen on the American Council Psychological Examination, 1932 edition, in two forms. In the first the student must form artificial words; in the other he must decide whether certain phrases are correctly translated into the artificial language. The results indicate a valid difference in favor of marking only the correct forms rather than indicating which are correct and which are incorrect.—*S. W. Fernberger* (Pennsylvania).

4276. Drever, J., & Collins, M. Performance tests of intelligence; a series of non-linguistic tests for deaf and normal children. Edinburgh: Oliver & Boyd, 1936. Pp. 55.—In this second edition revised norms are presented, a modification is introduced into the method of scoring the cube-construction test, and instructions for using the tests with normal children are included.—*F. C. Bartlett* (Cambridge, England).

4277. Hunt, E. P. A., & Smith, P. The teacher's guide to intelligence and other psychological testing. London: Evans Bros., 1935. Pp. 94. 1/6.—Specimens of intelligence tests, rating scales and tests of special capacities are given. Their general purpose is defined. Information is given with regard to the important conditions which must be observed in their application. Some statistical guidance is offered.—*F. C. Bartlett* (Cambridge, England).

4278. Margineanu, N. Les "facteurs" psychologiques. (Psychological "factors.") *Année psychol.*, 1934, 35, 85-102.—Psychology, like physics, should make its measurements first and then define what has been discovered. With this purpose, the researches leading to the discovery of *g* (Spearman) in its various aspects, *w* (Webb), *c* (Garnett), *p* (Spearman, Jones), *o* (Flugel), various group factors (verbal, mechanical, etc.), and the specific elements *s* are discussed. The researches of Kelley and of Thurstone are discussed separately. There is a bibliography of 45 titles.—*R. Goldman* (Clark).

4279. Maxfield, F. N. Trends in testing intelligence. *Educ. Res. Bull., Ohio St. Univ.*, 1936, 15, 134-141.—The author briefly reviews the development of intelligence tests through the army scales and criticizes the forms in which scores are expressed and

the interpretations that are made of such scores. He concludes: (1) We are likely to retain the word intelligence as a common-sense term, though we use more exact terms for different aspects of this indefinite concept. (2) In school administration massed data from tests will be interpreted by statistical methods. (3) With problems of individuals the case-study method of the clinical psychologist will prevail. (4) Inventories of personality, scales of social adjustment, and the like will supplement tests of intelligence. (5) Diagnostic tests will be supplemented by diagnostic teaching. (6) The weight given intelligence scores in the synthesis of physical condition, home background, previous school history, vocational interests, social and emotional reactions, and the like will vary with the problem presented.—*M. V. Louden* (Pittsburgh).

4280. Maxfield, F. N. Alternates for the "I. Q." *Psychol. Exch.*, 1936, 4, 133-136.—A report on the work of the "Committee on the I.Q." The work and problems of the Committee since its conception in 1934 are discussed.—*N. Goldman* (Worcester State Hospital).

4281. McIntire, J. T., & Hoffeditz, E. L. Comparative study of the Kent emergency test with feeble-minded subjects. *Train. Sch. Bull.*, 1936, 33, 22-26.—The results of testing 161 feeble-minded subjects indicate (1) that the mean mental age of the Kent emergency test is .8 years higher than the mean mental age of the Stanford Binet; (2) that although the correlation between the mental ages of the Kent and Binet is .87, the regression equation denotes that the most probable Binet mental age predicted from the Kent is always less than the Kent mental age; (4) that the chronological age bears no relationship to the discrepancy between Binet and Kent mental ages.—*E. M. Achilles* (Columbia).

4282. Monnin, J. Quelques données sur les formes d'intelligence. (Some results dealing with forms of intelligence.) *Année psychol.*, 1934, 35, 118-146.—Tests of comprehension, critical judgment, and invention were given to 351 subjects. The ages ranged from 8 to 15 and 20 to 40 years. The results indicate the complexity of intelligence and the difference between verbal and numerical problems. Boys and girls of the same ages gave the same results. A decrease in the independence of the functions measured occurs in going from the youngest group to the adult group. The tetrad differences can be considered as equal to zero, and indicate the presence of *g* alone and specific factors, but the small number of variables do not authorize any definite conclusions in this respect. The tests used are included in the appendix.—*R. Goldman* (Clark).

4283. Thomson, G. H. Measuring general intelligence by tests which break the *g*-hierarchy. *Nature, Lond.*, 1935, 135, 71.—A note to point out the extension of the principle "that two tests which fit separately into a hierarchy, but the correlation of which with one another breaks it, can under certain conditions be weighted so as to form a team of two tests correlating perfectly with *g*."—*R. Goldman* (Clark).

4284. Thomson, G. H. Definition and measurement of general intelligence. *Nature, Lond.*, 1935, 135, 509.—The fundamental reason why general intelligence cannot be measured exactly by a hierarchical set of tests is that in such a set there is always one more Spearman "factor" than the number of tests, for each test has its own specific factor and in addition there is the general factor. Though hierarchical tetrad sets may prove the existence of *g*, they cannot in general measure it unless one of the tests measures general intelligence alone, or unless a "singly-conforming" test is added.—R. Goldman (Clark).

4285. Thorndike, R. L. Factor analysis of social and abstract intelligence. *J. educ. Psychol.*, 1936, 27, 231-233.—An attempt to determine whether the George Washington social intelligence test measures any unitary trait which is distinct from the ability measured by an abstract intelligence test (George Washington mental alertness test). Thurstone's simplified method of factor analysis was used. The conclusion is that the social intelligence test may tap slightly some unique field of ability, but that it measures primarily the ability to understand and work with words which bulks so large in an abstract intelligence test.—A. W. Melton (Missouri).

4286. Thurstone, L. L., & Thurstone, T. G. The 1935 psychological examination. *Educ. Rec.*, 1936, April. Pp. 24.—Norms for the 1935 (twelfth) edition are contained in the report. In addition to the usual tables for colleges and universities, results for junior and teachers' colleges are given.—R. Goldman (Clark).

[See also abstracts 4163, 4272, 4315.]

CHILDHOOD AND ADOLESCENCE

4287. Asch, S. E. A study of change in mental organization. *Arch. Psychol., N. Y.*, 1936, No. 195. Pp. 30.—79 boys and 82 girls about 9 years old were tested with a battery of 4 verbal and 3 numerical tests. The same group was tested three years subsequently. At both age levels the verbal tests are most closely intercorrelated. Intercorrelations between the tests are lower at the age of 12 than at the age of 9. There is a systematic decrease in the amount of relationship between a number of psychological performances over a period of time. It is concluded that such relations, like other psychological functions, are subject to change and reorganization, and that specific conditions cause the formation of different patterns of organization. It is important to consider the organization of psychological traits as a product of dynamic factors, rather than as an affair of static relations between static elements.—E. M. Achilles (Columbia).

4288. Bader, H. Glimpses of the life-style in dreams, fantasies, and play of children. *Int. J. indiv. Psychol.*, 1936, 2, 84-90.—Spontaneous stories and fantasies of children, like dreams, attempt to create a mood for meeting problems of life. 12 illustrative cases are analyzed. Observations of a child's play provide insight into his life-style, thereby

facilitating character education.—M. F. Martin (West Springfield, Mass.).

4289. Bain, R. The self-and-other words of a child. *Amer. J. Sociol.*, 1936, 41, 767-775.—Nearly thirty years ago Cooley published a study of the acquisition of self-words by a child. This paper is a report of an attempted repetition of that study. In general the conclusions are the same: The child learns to know others before he knows himself as a self; he "understands" words in sentences before he can speak them; there is a little pronominal confusion; and the child masters the self and other words at some time before he is two and a half or three years old. A vocabulary count at the age of fourteen months gave 21 spoken words; at two years there were 645 words.—(Courtesy *Amer. J. Sociol.*)

4290. Bayley, N. The development of motor abilities during the first three years. *Monogr. Soc. Res. Child Developm.*, 1935, No. 1. Pp. 26.—61 white infants were tested repeatedly from birth to 3 years by means of the California infant scale of motor development. Directions and norms for this scale are provided. Topics reported include: test reliability, trends of growth in motor abilities, consistency of scores, comparison of motor score with parent's education and with body build, walking and pre-walking progression as measures of maturity, and the sequence of growth. Mental growth tests also were given these same infants. Comparisons show that the increments of mental and motor growth accrue more rapidly in the early months, decelerating later. Motor items show more rapid growth through the first 21 months than the mental, and after this age a much slower growth. A correlation of approximately .50 was found between motor coordinations and mental abilities during the first 15 months of life. The reliability of the motor scale is less satisfactory than that of the mental. Scores for motion and anti-gravity are not consistent in their correlation with each other at different ages. A gradual increase in functional independence of motor and intellectual abilities occurs as maturation proceeds. Motor abilities seem to be more closely related to each other in infants than in adults.—M. W. Kuenzel (Cincinnati Children's Home).

4291. Boggess, V. Some factors accounting for the variation in the social adjustment of children living in a tenement area. *Smith Coll. Stud. soc. Work*, 1936, 6, 324-359.—"The chief objective of the investigation was to learn to what extent the children on a given street in a large city varied in social adjustment and to trace some of the factors that may have led to the differences among them. By selecting one small street with fairly uniform housing conditions certain of the grossest social and economic factors were held constant. By studying all the children some of the difficulties in attributing causal significance to certain factors were avoided. . . . The outstanding conclusion that emerges from this consideration of some of the factors that might account for the variation in social adjustment displayed by the children living on the same street is the pre-

dominating influence of parental attitudes toward the children and the general relation between what are usually considered good parental attitudes and adequate social adjustment on the part of the children, but the various types of maladjustment in parental attitudes seemed to produce rather specific types of reaction in the children. Most of the families in which the children were shy, retiring, or generally socially inadequate had mothers that were, by one means or another, in complete control of the household. Some of them achieved dominance by psychosis or neurosis, others by native ability or by providing the family with economic support. For the most part they over-protected their children, either through excessive solicitude or by undue control of their activities. The fathers were either easy-going, quiet, submissive men or were no longer living at home. On the other hand, the children who were unsupervised and neglected through the mother's laxness or were subjected to the father's violent temper escaped the tense, quarrelsome atmosphere of their homes and became the mischief-makers of the neighborhood."—R. H. Brown (Yankton).

4292. Chmelář, V. Vývoj trvání aktivní optické pozornosti dětí 6-11 letých. (Development of continuity in active optical attention of children aged 6-11.) *Psychologie, Brno*, 1935, 1, 28-35; 113-127.—The problem is to determine (1) the line of development in the continuity of attention, (2) the effect of sex and chronological age on the rhythm of development, (3) the variation in the individual attention span during the 60 minutes of the test. An apparatus designed by M. Rostohara for successive presentation of nonsense syllables was employed. Tabulated results with a group of 23 boys, 6-7 years old, show the interruptions in attention during the hour to range from 1 to 111. Another table gives graphically the occurrence of interruptions spread over the 60-minute period. The most frequently occurring attention spans are $\frac{1}{2}$ -2 minutes and number 479. 2-10 minute spans number 112. Longer spans, from 10 to 56 minutes, are recorded in 25 instances. Three of the subjects concentrated evenly throughout the hour, three in the middle and second half, two during the first three quarters, seven at the beginning, three during the first half, three mostly in the middle of the hour, and one did not concentrate at all. A second test was given to five age groups, ranging from 7 to 11 years, each of 23 boys and 23 girls, altogether 230 children. One hour did not seem the limit of time for concentrated attention, as six of the subjects could perhaps have continued. The 6- and 7-year-olds of both sexes show a higher frequency and longer spans (10-90 seconds) of diversion in attention. This diversion declined very rapidly in the groups above 9 years. A series of tables illustrates the variations in attention during the test. The author concludes that with advancing age the continuity of attention increases, that girls over 8 do better than boys of the same age, that equal periods of attention are not rhythmically repeated but vary during the hour according to the type of the subject, and that five categories of such types are distinguishable.—K. Sicha (New York).

4293. Cosack, H. Tagebuch eines autistischen Jugendlichen. (The diary of an autistic adolescent.) *Z. ges. Neurol. Psychiat.*, 1936, 154, 258-264.—Excerpts (including pictures) from the diary of an autistic adolescent are given and discussed. Although the material seems bizarre, it becomes completely intelligible and sensible upon analysis. Symptoms which in adults might point toward mental disease may in adolescents represent, as here, only transitory phenomena having no essential pathological significance.—C. W. Fox (Rochester).

4294. Drake, R. M. Outline of adolescent psychology. Wesleyan College, Macon, Ga.: Author, 1936. Pp. 47. \$.60.—A syllabus designed for use with any standard text in adolescence.—L. A. Averill (Worcester Teachers College).

4295. Drake, R. M. Work book in adolescent psychology. Wesleyan College, Macon, Ga.: Author, 1936. Pp. 96. \$.60.—A teaching device which divides the materials of adolescent psychology into 17 units and provides assignments and objective quizzes for each.—L. A. Averill (Worcester Teachers College).

4296. Eccles, A. K. Seventy out of a thousand. *Train. Sch. Bull.*, 1936, 32, 172-179.—7% of the 1000 boys admitted in $3\frac{1}{2}$ years to a state home for boys were under eleven years of age. These 70 were studied. 30 of the 70 were colored. The youngest was 7 years 2 months; 3% were under 10. Psychologically they ranged from kindergarten to 7th grade level. The home situation is the key factor in the commitment. 66% came from broken homes, 16% were known to be illegitimate. The need for a special type of agency to care for these child delinquents to avoid mixing with older boys was stressed.—E. M. Achilles (Columbia).

4297. English, H. B. Trends in child psychology. *Educ. Res. Bull., Ohio St. Univ.*, 1936, 15, 123-127.—During the last two decades the trend in child psychology has been from the search for general principles in the development of infants and children to explain adult behavior, to the study of the individual child for the child's sake. The testing of intelligence, the psychoanalytic movement, and the mental-hygiene point of view have profoundly influenced the subject. Child-guidance clinics multiplied from 5 in 1919 to 83 in 1931. Child development institutes are springing up to give intensive consideration not only to the problem child and those maladjusted emotionally but also to normal children. The experimental work of J. B. Watson and the work of the Character Education Inquiry, though perhaps over-interpreted, have brought the attitudes and emotional responses of children under carefully controlled experimentation. The next decade will see experiments extended to every aspect of child behavior, acceptance of no generalizations without the test of experiment, and the domination of interest in the child's development for its own sake.—M. V. Loudon (Pittsburgh).

4298. Foster, S. The mental-hygiene implications in substitute parental care. *Ment. Hyg., N. Y.*, 1936, 20, 205-217.—The mental-hygiene needs of substitute parental care are identical with those of

actual parental care. Because of the child's early experiences they are more difficult to provide. His present circumstances also increase the difficulty. The way in which these needs are met at the Children's Community Center in New Haven is outlined and several case studies serve as illustrations.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.)

4299. Iovetz-Tereschenko, N. M. *Friendship-love in adolescence*. London: Allen & Unwin, 1936. Pp. xiii + 367. 16/-.—The work is based almost entirely upon original diary material (the most important is that written by a boy from the age of 13 years 4 months to that of 16 years 1 month) long extracts from which are given in full. The author shows that the friendship-love of which he speaks need not be in any important sense sexual, but may play a valuable part in the development of emotions and the intellectual life.—*F. C. Bartlett* (Cambridge, England).

4300. Isaacs, S. *The psychological aspects of child development*. London: Evans Bros., 1935. Pp. 45. 1-6.—The author gives a rapid survey of recent investigations of the topic indicated, stating the main conclusions which can be drawn and the problems which still await research. The author has had a large amount of first-hand experience. The topics she deals with are in the main treated descriptively and qualitatively, and there is some bias toward psychoanalytical methods of approach.—*F. C. Bartlett* (Cambridge, England).

4301. Israeli, N. *Political and scientific outlook of superiors (Scotland): method of future autobiography*. *Psychol. Exch.*, 1936, 4, 166-169.—Samples of allusions to political and scientific events of the future found in the story of their own future as written by a group of superior Scotch adolescents.—*N. Goldman* (Worcester State Hospital).

4302. Miller, R. *The care and treatment of difficult children*. *Lancet*, 1935, 229, 1393-1395.—General discussion of behavior problems in children.—*D. J. Ingle* (Mayo Foundation).

4303. Mydlarski, J. [Physical aptitude of Polish youth; norms and distribution; boys.] *Przegl. Fizjol. Ruchu*, 1934, 6, 1-110.—Tables and curves are presented of anthropometric measurements and performance in numerous athletic tests, such as the high jump. Correlations are given between the different variables, such as height of stature and height of jump.—*H. E. Burt* (Ohio State).

4304. Mydlarski, J. [Physical aptitude of Polish youth. Part II. Girls.] *Przegl. Fizjol. Ruchu*, 1934, 6, 403-486.—Measurements of Polish girls in numerous anthropometric and athletic variables are reported. The intercorrelations between the athletic tests are higher for girls than for boys.—*H. E. Burt* (Ohio State).

4305. Peatman, J. G., & Greenspan, I. *An analysis of results obtained from a questionnaire on superstitious beliefs of elementary school children*. *J. abnorm. soc. Psychol.*, 1936, 30, 502-507.—Results obtained from a questionnaire designed to furnish information about the superstitious beliefs of elemen-

tary school children were summarized and analyzed in relation to the 431 negro children's differences in sex, age, school grade, and birthplace. 50% of the group indicated that they believed at least one-half of the 35 superstitious statements to be true. The girls exceeded the boys in the average frequency of superstitious responses. The mean differences in the frequency of superstitious responses for the various age groups were not very great and in no case was a difference found to be statistically significant. The lower the school grade, the greater the average frequency of superstitious responses. Whether the subjects had or had not been born in New York City, or whether they were born in the old South, made no significant average difference in the frequency of superstitious responses.—*C. H. Johnson* (Boston Psychopathic Hospital).

4306. Pejchovský, E. J. *Problémy a metodické předpoklady psychologie dospívající mládeže*. (Problems and methodological approach to the psychology of adolescence.) *Psychologie, Brno*, 1935, 1, 64-78.—The author discusses the following considerations: The age between 12 and 15 is the most important during adolescence, because psychic functions undergo distinct changes. The attitude of the adolescent should be studied empirically during that period. Psychological changes should be considered separately from physiological changes, but psychopathological problems will shed light on the changes in adolescence. Attention should be paid to social problems of pubescents. There are only a few studies specializing in these problems of Czechoslovak youth; the contributions of four Czech authors are quoted and others mentioned. As sources for the understanding of adolescent psychology are suggested: self-observation and observation by others, supplemented by experiments. For objective expressions of youth, diaries and letters are recommended as good material, also school papers and autobiographies if they are not produced to comply with specific scholastic standards.—*K. Sicha* (New York).

4307. Perlberg, A. [Experiments on work and production of children.] *Przegl. Fizjol. Ruchu*, 1934, 6, 318-357.—The oxygen debt increases with the load on a bicycle ergometer. With adults a relation is found between actual amount of work done and metabolism. This relation does not always hold with children between 12 and 14 years, when the rhythm is constant and the load is varied. If, however, the load is constant and the rhythm varies, the relation is found.—*H. E. Burt* (Ohio State).

4308. Richards, T. W., & Irwin, O. C. *The use of the clinical method in experimental studies of behavior*. *J. abnorm. soc. Psychol.*, 1936, 30, 455-461.—An attempt was made to reveal a qualitative as well as a quantitative picture of the relationship between judgments in a situation requiring the use of the clinical method of observation. The situation studied was the stimulation of the plantar surface of infants and young children. The two observers tended on the whole to agree in the majority of judgments, but the nature of their disagreements strongly indicated the potency of the personal factor.

It was evident also that for both observers, certain situations were relatively easier to judge than others. In clinical practice the object of the examination has in most cases justified the small error involved. In experimental work, however, there is little justification for the hasty ignorance of factors of reliability of observation.—*C. H. Johnson* (Boston Psychopathic Hospital).

4309. Rickman, J. [Ed.] *On the bringing up of children*. London: Kegan Paul, 1936. Pp. 237. 6/-.—The following discussions, prepared from a public course of lectures, are included: planning for stability, by Ella F. Sharpe; weaning, by Melanie Klein; the uses of sensuality, by M. P. Middlemore; questions and answers, by Nina Searle; habit, by Susan Isaacs; and the nursery as a community, by Susan Isaacs. Rickman contributes an introduction. All the lectures represent psychoanalytical views.—*F. C. Bartlett* (Cambridge, England).

4310. Rooft, M. *Youth and leisure: a survey of girls' organisations in England and Wales*. London: National Council of Girls' Clubs, 1935. Pp. ix + 264. 2/6.—The survey is partly by questionnaire and partly by direct observation. The general activities of girls' clubs in England and Wales are described and their range and success indicated. Points of difficulty are considered and suggestions made. The survey was carried out with the help of the trustees of the Carnegie United Kingdom Trust.—*F. C. Bartlett* (Cambridge, England).

4311. Russell, N. M. *Arithmetical concepts of children*. *J. educ. Res.*, 1936, 29, 647-663.—Tests were made of 54 children in kindergarten, first and second grades by presenting them with two piles of blocks and asking which pile had the greater number of blocks. In a first experiment all of the blocks were of the same size and in a second experiment two sizes of blocks were employed. From an analysis of the results the author concludes "that the child's first concept of number is a manyness from which the quantity and serial aspects of number differentiate." This differentiation appears to be a gradual process which has not developed at 7 years to the adult's cardinal and ordinal ideas of number. At 7 years the child has developed the concept of most and more, but not that of same and equal. From this the author concludes that it is unlikely that the first and second grade child will be mature enough to "master completely and understand isolated addition and subtraction facts."—*S. W. Fernberger* (Pennsylvania).

4312. St. George's School for Child Study. *Outlines for parent education groups*. *Univ. Toronto Stud. Child Developm. Ser.*, 1936, No. 5. Pp. 77.—*R. R. Willoughby* (Clark).

4313. Schmeing, K. *Die mehrfache Pubertät*. (Plural puberty.) Berlin-Friedenau: Pfeiffer, 1930. Pp. 166. RM. 5.00.—*R. R. Willoughby* (Clark).

4314. Schwarz, J. *Podreczny atlas fizycznego i psychicznego rozwoju młodzieży. Do użytku studiujących pedagogikę i nauczycieli*. (Hand-atlas of physical and mental development in childhood. For

the use of students in education and for teachers.) *Wydawca: Drukarnia Stefana Andersona*, 1934. Pp. 86.—*R. R. Willoughby* (Clark).

4315. Simonsen, K. *Intelligensundersøgelser hos børn i de første leveaar ad mod. Bühler og Hetzer*. (Intelligence investigations of children in the first year of life by the method of Bühler and Hetzer.) *Ugeskr. Laeg.*, 1936, 98, 354-355.—An exposition of the Bühler-Hetzer tests of development for children in the first year of life, first given publicly by the authors in 1932.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

4316. Sonevend, C. *Psychologické předpoklady dětského divadla*. (Psychological conditions for children's theaters.) *Psychologie, Brno*, 1935, 1, 155-165.—A recommendation for the development of children's theaters in Czechoslovakia. The author gives suggestions as to the organization, grouping of audiences by age, selection of appropriate plots, language, decorations, etc.—*K. Sicha* (New York City).

4317. Spiel, O. *Change of life-style—change of talent*. *Int. J. indiv. Psychol.*, 1936, 2, 17-38.—Laziness and stupidity are the elaborated mistakes safeguards of a discouraged person. The author reports in detail the transformation of a schoolroom clown into an industrious and fairly capable student. Training is in large part determined by courage. To change laziness into industry and lack of talent into talent, we must understand the child's mistaken attitude and then press into service our stage-directing devices to help him to success experiences.—*M. F. Martin* (West Springfield, Mass.).

4318. Symonds, P. M. *Sex differences in the life problems and interests of adolescents*. *Sch. & Soc.*, 1936, 43, 751-752.—The boys and girls in two large city high schools were presented with a list of 15 major areas of life and asked to rank these items (1) according to the degree to which they were recognized as problems, and (2) according to the degree an urge was felt to read about and discuss them. The boys tended to consider money matters—i.e., the earning, spending, and saving of money—more of a problem than did the girls; whereas the latter ranked higher on the problem list those of personal attractiveness and etiquette. When the rankings were in terms of the amount of interest felt, boys, on the average, placed relatively higher than did the girls the following: safety, health, money, civic affairs, recreation, and study; while the reverse obtained for personal attractiveness, etiquette, and getting along with other people.—*H. L. Koch* (Chicago).

4319. Uher, J. *Příspěvek k psychologii náboženského života našich studentů*. (Contribution to the psychology of religious life among our students.) *Psychologie, Brno*, 1935, 1, 36-53.—A questionnaire concerning their attitude to religion sent to 300 high-school students brought only 71 replies. Of these 40 (19 boys, 21 girls) profess a positive attitude, 14 (6 boys, 8 girls) a negative one, and 17 (6 boys, 11 girls) are undecided. An analysis of the various responses reveals that the majority of those expressing

a positive attitude are adherents of orthodox churches. Real efforts for a deeper religious life are rare. The emotional element predominates over the rational, which tends to show how few honest efforts are made to come to grips with religious questions. On the whole the answers show shallow thinking and unclear understanding of religious problems.—K. Sicha (New York City).

4320. Uher, J. *Denk v životě studentu.* (The diary in the life of students.) *Psychologie, Brno*, 1935, 1, 128-140.—A questionnaire given to 27 adolescent students revealed that 63.2% of the girls and only 35.5% of the boys kept diaries. In the majority of cases the time when a diary was started coincided with the onset of puberty. The girls keep more intimate, subjective diaries than boys, on the whole. The reason most commonly given for not keeping a diary was fear of ridicule. Those who did keep one considered it variously as: a friend, a record of development, a confidential record of memories, etc. A spontaneously started diary, according to the author, has a cathartic value and may be helpful in character development.—K. Sicha (New York City).

4321. Valentine, W. L., & Dockeray, F. C. *The experimental study of the newborn, 1926-36.* *Educ. Res. Bull., Ohio St. Univ.*, 1936, 15, 127-133.—This decade "contains most of the experimental work with infants in which adequate numbers of subjects were used." Most of the work has been done on the newborn (roughly the first ten days of life) because of availability of subjects rather than importance of the age range. Because of this restriction facts learned and principles developed are of more significance to the physiologist and the student of behavior than to the educator, social worker, and others. Tests of behavior development are unreliable in all the preschool years. The past decade has for the most part seen the final collapse of resistance against study of normal infants on the part of hospital authorities, the establishment of numerous research stations for

the newborn, and training of a technical personnel. The next decade should develop agencies for extending observation through the nursery-school period. A bibliography of 41 titles is appended.—M. V. Louden (Pittsburgh).

4322. Vaněk, J. *Dětské myšlení.* (The thinking of children.) *Psychologie, Brno*, 1935, 1, 140-155.—The nature of thought in children is illustrated by numerous examples of children's sayings quoted from J. Sully, Piaget, Stern, and the author's own experience. The elements of concretism, anthropomorphism, and animism are shown in these examples, and their similarity to the ideas of primitives is pointed out.—K. Sicha (New York City).

4323. Weigl, F. *Zur Beobachtung des Werteslebens Zwölfjähriger.* (On the observation of the value experience in 12-year-old children.) *Z. pädag. Psychol.*, 1934, 35, 177-178.—43 children receiving religious instruction were asked to indicate the most impressive moments in the life of a saint whom they had studied. 60% of the children were impressed by external aspects and 40% by the more profound and spiritual aspects.—(Courtesy *Année psychol.*)

4324. Zillig, M. *Schulspiele zwölfjährige Mädchen.* (School plays of 12-year-old girls.) *Z. pädag. Psychol.*, 1935, 36, 214-218.—These are activities carried on before school and between classes. They appear suddenly (sometimes periodically), spread rapidly, and disappear abruptly. They are classified as finger plays (cat's cradle, etc.), the secret and mysterious (codes, mind reading), the esthetic (collecting cigarette pictures, etc.), and very mild games of chance. Zillig interprets and evaluates these plays according to the catharsis and practice (Groos) theories. All the activities are social and constructive and relieve tension, and the hand and esthetic plays are useful preparations for adult feminine occupations.—M. E. Morse (Baltimore).

[See also abstracts 3912, 3917, 3933, 4061, 4090, 4108, 4142, 4172, 4180, 4181, 4211, 4260.]

